



THE IMPERIAL ENCYCLOPEDIA AND DICTIONARY

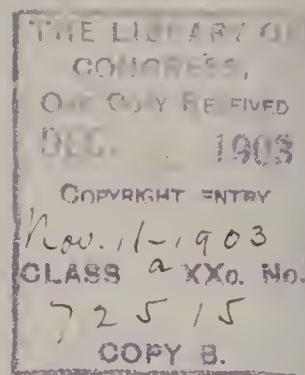
A LIBRARY OF UNIVERSAL
KNOWLEDGE AND AN UN-
ABRIDGED DICTIONARY OF
THE ENGLISH LANGUAGE
UNDER ONE ALPHABET

IN FORTY VOLUMES

VOLUME 8
CHAGRIN—CLOISTER

NEW YORK HENRY G. ALLEN & COMPANY

A E 5
J 34



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GARRETSON COX & COMPANY.

WILLIAM COX
GARRETSON COX & COMPANY

SCHEME OF SOUND SYMBOLS FOR THE PRONUNCIATION OF WORDS.

Note.—(-) is the mark dividing words respelt phonetically into syllables; ('), the accent indicating on which syllable or syllables the accent or stress of the voice is to be placed.

Sound-sym-
bols em- Representing the Sounds as
ployed in exemplified in the Words.
Respelling.

Words respelt with
Sound-symbols and Marks
for Pronunciation.

ā	...mate, fate, fail, aye.....	māt, fāt, fāl, ā.
ă	...mat, fat.....	măt, făt.
ā	...far, calm, father.....	fār, kām, fā'thēr.
ä	...care, fair.....	cär, fär.
aw	..fall, laud, law	fawl, lawd, law.
ē	...mete, meat, feet, free.....	mēt, mēt, fēt, frē.
ĕ	...met, bed.....	mēt, bĕd.
ĕ	...her, stir, heard, cur	hĕr, stĕr, hĕrd, kĕr.
î	...pine, ply, height.....	pīn, plī, hīt.
ĭ	...pin, nymph, ability.....	pīn, nīmf, ā-bil'ī-tī.
ō	...note, toll, soul.....	nōt, tōl, sōl.
ŏ	...not, plot.....	nōt, plōt.
ō	...move, smooth.....	mōv, smōth.
ö	...Goethe (similar to e in her)... .	gö'teh.
ow	..noun, bough, cow.....	nown, bow, kow.
oy	..boy, boil.....	boy, boyl.
ū	..pure, dew, few.....	pūr, dū, fū.
ŭ	..bud, come, tough.....	būd, kūm, tūf.
û	..full, push, good.....	fûl, pûsh, gûd.
ü	..French plume, Scotch guid..	plüm, güd.
ch	...chair, match.....	chär, măch.
čh	...German buch, Heidelberg, Scotch loch (guttural).....	bóch, hī'dél-bérch, lóch.
g	...game, go, gun.....	gām, gō, gún.
ž	...judge, gem, gin.....	jūj, jém, jín.
k	..king, cat, cot, cut.....	kīng, kăt, kōt, küt.
s	...sit, scene, cell, city, cypress.	sít, sén, sél, sit'i, sí'prës.
sh	...shun, ambition	shün, ám-bish'ün.
th	...thing, breath.....	thīng, bréth.
th	...though, breathe.....	thō, bréth.
z	...zeal, maze, muse.....	zēl, māz, müz.
zh	...azure, vision.....	ázh'er, vízh'ün.

ABBREVIATIONS USED IN THIS WORK.

a., or adj....	adjective
A.B.....	Bachelor of Arts
abbr.....	abbreviation, abbreviated
abl. or abla.	ablative
Abp.....	Archbishop
abt.....	about
Acad.....	Academy
acc. or ac..	accusative
accom.....	accommodated, accommodation
act.....	active
A.D.....	in the year of our Lord [Anno Domini]
Adjt	Adjutant
Adm	Admiral
adv. or ad..	adverb
A. F.....	Anglo-French
Ag.....	Silver [Argentum]
agri.....	agriculture
A. L.....	Anglo-Latin
Al.....	Aluminium
Ala.....	Alabama
Alb.....	Albanian
alg.....	algebra
A.M.....	before noon [<i>ante meridiem</i>]
A.M.	Master of Arts
Am.....	Amos
Amer.....	America, -n
anat.....	anatomy, anatomical
anc.....	ancient, anciently
AN. M.	in the year of the world [Anno Mundi]
anon.....	anonymous
antiq.....	antiquity, antiquities
aor.....	aorist, -ic
app.....	appendix
appar.....	apparently
Apr.....	April
Ar.....	Arabic
arch.....	architecture
archæol....	archæology
arith.....	arithmetic
Ariz.....	Arizona
Ark.....	Arkansas
art.....	article
artil.....	artillery
AS.....	Anglo-Saxon
As.....	Arsenic
Assoc.....	Association
asst.....	assistant
astrol.....	astrology
astron....	astronomy
attrib.....	attributive
atty.....	attorney
at. wt.....	atomic weight
Au.....	Gold [Aurum]

A.U.C.....	in the year of the building of the city (Rome) [Annourbis conditae]
Aug.....	August
aug.....	augmentative
Aust.....	Austrian
A. V.....	authorized version [of Bible, 1611]
avoir.....	avoirdupois
B.....	Boron
B.....	Britannic
b.....	born
Ba.....	Barium
Bart.....	Baronet
Bav.....	Bavarian
bl.; bbl....	barrel; barrels
B.C.....	before Christ
B.C.L.....	Bachelor of Civil Law
B.D.....	Bachelor of Divinity
bef.....	before
Belg.....	Belgic
Beng.....	Bengali
Bi.....	Bismuth
biog.....	biography, biographical
biol.....	biology
B.L.....	Bachelor of Laws
Bohem.....	Bohemian
bot.....	botany, botanical
Bp.....	Bishop
Br.....	Bromine
Braz.....	Brazilian
Bret.....	Breton
Brig.....	Brigadier
Brit.....	British, Britannica
bro.....	brother
Bulg.....	Bulgarian
bush.....	bushel, bushels
C.....	Carbon
c.....	century
Ca.....	Calcium
Cal.....	California
Camb.....	Cambridge
Can.....	Canada
Cant.....	Canterbury
cap.....	capital
Capt.....	Captain
Card.....	Cardinal
carp.....	carpentry
Cath.....	Catholic
caus.....	causative
cav.....	cavalry
Cd.....	Cadmium
Ce.....	Cerium
Celt.....	Celtic
cent.....	central
cf.....	compare [confer]
ch or chh..	church

ABBREVIATIONS.

<i>Chal.</i>	Chaldee	diff.	different, d
<i>chap.</i>	chapter	dim.	diminutive
<i>chem.</i>	chemistry, chemical	dist.	district
<i>Chin.</i>	Chinese	distrib.	distributive
<i>Chron.</i>	Chronicles	div.	division
<i>chron.</i>	chronology	doz.	dozen
<i>Cl.</i>	Chlorine	Dr.	Doctor
<i>Class.</i>	Classical [= Greek and Latin]	dr.	dram, drams
<i>Co.</i>	Cobalt	dram.	dramatic
<i>Co.</i>	Company	Dut. or D.	Dutch
<i>co.</i>	county	dwt.	pennyweight
<i>cog.</i>	cognate [with]	dynam.	<i>or</i>
<i>Col.</i>	Colonel	dyn.	dynamics
<i>Col.</i>	Colossians	E.	Erbium
<i>Coll.</i>	College	E. or e.	East, -ern, -ward
<i>colloq.</i>	colloquial	E. or Eng.	English
<i>Colo.</i>	Colorado	Eccl.	Ecclesiastes
<i>Com.</i>	Commodore	eccl. or	{ ecclesiastical [af- eccles....] fairs]
<i>com.</i>	commerce, commercial	ed.	edited, edition, editor
<i>com.</i>	common	e.g.	for example [<i>ex gratia</i>]
<i>comp.</i>	compare	E. Ind. or	{ East Indies, East
<i>comp.</i>	composition, compound	E. I.	{ Indian
<i>compar.</i>	comparative	elect.	electricity
<i>conch.</i>	conchology	Emp.	Emperor
<i>cong.</i>	congress	Encyc.	Encyclopedia
<i>Congl.</i>	Congregational	Eng. or E.	English
<i>conj.</i>	conjunction	engin.	engineering
<i>Conn. or Ct.</i>	Connecticut	entom.	entomology
<i>contr.</i>	contraction, contracted	env. ext.	envoy extraordinary
<i>Cop.</i>	Coptic	ep.	epistle
<i>Cor.</i>	Corinthians	Eph.	Ephesians
<i>Corn.</i>	Cornish	Episc.	Episcopal
<i>corr.</i>	corresponding	eq. or	= equal, equals
<i>Cr.</i>	Chromium	equiv.	equivalent
<i>crystal.</i>	crystallography	esp.	especially
<i>Cs.</i>	Cæsium	Est.	Esther
<i>ct.</i>	cent	estab.	established
<i>Ct. or Conn.</i>	Connecticut	Esthon.	Esthonian
<i>Cu.</i>	Copper [<i>Cuprum</i>]	etc.	and others like [<i>et cetera</i>]
<i>cwt.</i>	a hundred weight	Eth.	Ethiopic
<i>Cyc.</i>	Cyclopedias	ethnog.	ethnography
<i>D.</i>	Didymium	ethnol.	ethnology
<i>D. or Dut.</i>	Dutch	et seq.	and the following [<i>et sequentia</i>]
<i>d.</i>	died	etym.	etymology
<i>d. [l. s. d.]</i>	penny, pence	Eur.	European
<i>Dan.</i>	Daniel	Ex.	Exodus
<i>Dan.</i>	Danish	exclam.	exclamation
<i>dat.</i>	dative	Ezek.	Ezekiel
<i>dau.</i>	daughter	Ezr.	Ezra
<i>D. C.</i>	District of Columbia	F.	Fluorine
<i>D.C.L.</i>	Doctor of Civil [or Common] Law	F. or Fahr.	Fahrenheit
<i>D.D.</i>	Doctor of Divinity	f. or fem.	feminine
<i>Dec.</i>	December	F. or Fr.	French
<i>dec.</i>	declension	fa.	father
<i>def.</i>	definite, definition	Fahr. or F.	Fahrenheit
<i>deg.</i>	degree, degrees	far.	farriery
<i>Del.</i>	Delaware	Fe.	Iron [<i>Ferrum</i>]
<i>del.</i>	delegate, delegates	Feb.	February
<i>dem.</i>	democratic	fem. or f.	feminine
<i>dep.</i>	deputy	fig.	figure, figuratively
<i>dep.</i>	deponent	Fin.	Finnish
<i>dept.</i>	department	F.—L.	French from Latin
<i>deriv.</i>	derivation, derivative	Fla.	Florida
<i>Deut.</i>	Deuteronomy	Flem.	Flemish
<i>dial.</i>	dialect, dialectal	for.	foreign
<i>diam.</i>	diameter	fort.	fortification
<i>Dic.</i>	Dictionary	Fr. or F.	French
		fr.	from

ABBREVIATIONS.

freq.....	frequentative	ind.....	indicative
Fris.....	Frisian	indef.....	indefinite
ft.....	foot, feet	Indo-Eur...	Indo-European
fut.....	future	inf.....	infantry
G. or Ger...	German	inf or infin.	infinitive
G.....	Glucinium	instr.....	instrument, -al
Ga.....	Gallium	int...	interest
Ga.....	Georgia	intens.....	intensive
Gael.....	Gaelic	interj. or	
Gal.....	Galatians	int.....	interjection
gal.....	gallon	interrog...	interrogative
galv.....	galvanism, galvanic	noun	pronoun
gard.....	gardening		
gen.....	gender		
Gen.....	General		
Gen	Genesis		
gen.....	genitive		
Geno.....	Genoese		
geog	geography		
geol.....	geology		
geom.....	geometry		
Ger.....	German, Germany		
Goth.....	Gothic		
Gov.....	Governor		
govt.....	government		
Gr.....	Grand, Great		
Gr.....	Greek		
gr.....	grain, grains		
gram.....	grammar		
Gr. Brit....	Great Britain		
Gris.....	Grisons		
gun	gunnery		
H.....	Hegira		
H.....	Hydrogen		
h.....	hour, hours		
Hab.....	Habakkuk		
Hag.....	Haggai		
H. B. M.....	His [or Her] Britannic Majesty		
Heb.....	Hebrew, Hebrews		
her.....	heraldry		
herpet.....	herpetology		
Hg.....	Mercury [<i>Hydrargyrum</i>]		
hhd.....	hogshead, hogsheads		
Hind.....	Hindustani, Hindu, or Hindi		
hist	history, historical	1. [l. s. d.] , { pound, pounds or £.....} [sterling]	
Hon	Honorable		
hort.....	horticulture	La..... Lanthanum	
Hos.....	Hosea	La..... Louisiana	
Hung.....	Hungarian	Lam..... Lamentations	
Hydros.....	Hydrostatics	Lang..... Languedoc	
I.....	Iodine	lang..... language	
I.; Is.....	Island ; Islands	Lap..... Lapland	
Icel.....	Icelandic	lat..... latitude	
ichth.....	ichthyology	lb.; llb. or { pound ; pounds lbs.....} [weight]	
Ida.....	Idaho	Let..... Lettish	
i.e.....	that is [<i>id est</i>]	Lev..... Leviticus	
Ill.....	Illinois	LG..... Low German	
illus.....	illustration	L.H.D..... Doctor of Polite Literature	
impera or		Lieut..... Lieutenant	
impr.....	imperative	Lim..... Limousin	
impers.....	impersonal	Lin..... Linnæus, Linnæan	
impf or imp	imperfect	lit..... literal, -ly	
impf. p. or		lit..... literature	
imp.....	imperfect participle	Lith..... Lithuanian	
improp.....	improperly	lithog..... lithograph, -y	
ln.....	Indium	LL..... Late Latin, Low Latin	
in.....	inch, inches	LL.D..... Doctor of Laws	
incept.....	inceptive	long..... longitude	
Ind.....	India, Indian	Luth..... Lutheran	
Ind.....	Indiana	M..... Middle	
		M..... Monsieur	
		m..... mile, miles	
		m. or masc.	mASCULINE
		M.A..... Master of Arts	
		Macc..... Maccabees	
		mach..... machinery	
		Mag..... Magazine	

ABBREVIATIONS.

Maj.....	Major	N. A., or
Mal.....	Malachi	N. Amer. North America, -n
Mal.....	Malay, Malayan	nat.....natural
manuf.....	manufacturing, manufacturers	naut.....nautical
Mar.....	March	nav.....navigation, naval af- fairs
masc or m.	masculine	Nb.....Niobium
Mass.....	Massachusetts	N. C. or
math.....	mathematics, math- ematical	N. Car...North Carolina
Matt.....	Matthew	N. D.....North Dakota
M.D.....	Doctor of Medicine	Neb.....Nebraska
MD.....	Middle Dutch	neg.....negative
Md.....	Maryland	Neh.....Nehemiah
ME.....	Middle English, or Old English	N. Eng....New England
Me.....	Maine	neut or n...neuter
mech.....	mechanics, mechani- cal	Nev.....Nevad. ^a
med.....	medicine, medical	N. Gr.....New Greek, Modern Greek
mem.....	member	N. H.....New Hampshire
mensur.....	mensuration	NHG.....New High German [German]
Messrs. or		Ni Nickel
MM.....	Gentlemen, Sirs	N. J.....New Jersey
metal.....	metallurgy	NLNew Latin, Modern Latin
metaph.....	metaphysics, meta- physical	N. Mex....New Mexico
meteor.....	meteorology	N. T. or .. .
Meth.....	Methodist	N. Test...New Testament
Mex.....	Mexican	N. Y.....New York [State]
Mg.....	Magnesium	nom.....nominative
M.Gr.....	Middle Greek	Norm. F...Norman French
MHG.....	Middle High Ger- man	North. E...Northern English
Mic.....	Micah	Norw....Norwegian, Norse
Mich.....	Michigan	Nov.....November
mid.....	middle [voice]	Num.....Numbers
Milan.....	Milanese	numis.....numismatics
mid. L. or } Middle Latin, Me- ML..... } diaeval Latin	Ohio	
milit. or		O.....Old
mil....	military [affairs]	O.....Oxygen
min.....	minute, minutes	Obad.....Obadiah
mineral....	mineralogy	obj.....objective
Minn.....	Minnesota	obs. or †...obsolete
Min. Plen.	Minister Plenipoten- tiary	obsoles....obsolescent
Miss.....	Mississippi	O.Bulg.....Old Bulgarian or Old Slavic
ML. or } Middle Latin, Me- mid. L. } diaeval Latin	Oct.....October	
MLG.....	Middle Low German.	Odontog...odontography
Mlle.....	Mademoiselle	OE.....Old English
Mme.....	Madam	OF or
Mn.....	Manganese	O. Fr....Old French
Mo.....	Missouri	OHG.....Old High German
Mo.....	Molybdenum	Ont.....Ontario
mod.....	modern	opt....optics, optical
Mont.....	Montana	Or.....Oregon
Mr.....	Master [Mister]	ord.....order
Mrs.....	Mistress [Missis]	ord.....ordnance
MS.; MSS.	manuscript; manu- scripts	org.....organic
Mt.....	Mount, mountain	orig.....original, -ly
mus.....	music	ornith.....ornithology
MUS. DOC....	Doctor of Music	Os.....Osmium
myth.....	mythology, mytho- logical	OS.Old Saxon
N.....	Nitrogen	O. T., or
N. or n....	North, -ern, -ward	O. Test...Old Testament
n.....	noun	Oxf.....Oxford
n or neut...	neuter	oz.....ounce, ounces
Na.....	Sodium [<i>Natrium</i>]	P.....Phosphorus
Nah.....	Nahum	p.; pp.....page; pages

ABBREVIATIONS.

pathol or		pt.....past tense
path.....pathology		pt.....pint
Pb.....Lead [<i>Plumbum</i>]		Pt.....Platinum
Pd.....Palladium		pub.....published, publisher, publication
Penn or Pa. Pennsylvania		pwt.....pennyweight
perf.....perfect		Q.....Quebec
perh.....perhaps		qt.....quart
Pers.....Persian, Persic		qtr.....quarter [weight]
pers.....person		qu.....query
persp.....perspective		q.v.....which see [quod vide]
pert.....pertaining [to]		R.....Rhodium
Pet.....Peter		R.....River
Pg. or Port. Portuguese		Rb.....Rubidium
phar.....pharmacy		R. Cath....Roman Catholic
PH.D.....Doctor of Philosophy		rec. sec....recording secretary
Phen.....Phenician		Ref.....Reformed
Phil.....Philippians		refl.....reflex
Philem.....Philemon		reg.....regular, -ly
philol.....philology, philological		regt.....regiment
philos. { philosophy, philo- or phil... } sophical		rel. pro. or
phonog.....phonography		rel.....relative pronoun
photog.....photography		repr.....representing
phren.....phrenology		repub.....republican
phys.....physics, physical		Rev.....Revelation
physiol.....physiology, physi- ological		Rev.....The Reverend
Pied.....Piedmontese		Rev. V.....Revised Version
Pl.....Plate		rhet.....rhetoric, -al
pl. or plu....plural		R. I.....Rhode Island
Pl. D.....Platt Deutsch		R. N.....Royal Navy
plupf.....pluperfect		Rom.....Roman, Romans
P.M.....afternoon [<i>post meridiem</i>]		Rom.....Romanic or Ro- mance
pneum.....pneumatics		Rom. Cath. { Roman Catholic Ch. or R. } Church C. Ch....
P. O.....Post-office		r.r.....railroad
poet.....poetical		Rt. Rev ... Right Reverend
Pol.....Polish		Ru.....Ruthenium
pol econ...political economy		Russ.....Russian
polit.....politics, political		r.w.....railway
pop.....population		S.....Saxon
Port. or Pg. Portuguese		S.....Sulphur
poss.....possessive		s.....second, seconds
pp.....pages		s. [l. s. d.].....shilling, shillings
pp.....past participle, perfect participle		S. or s.....South, -ern, -ward
p. pr.....present participle		S. A. or
Pr. or Prov. Provengal		S. Amer. South America, -n
pref.....prefix		Sam.....Samaritan
prep.....preposition		Sam.....Samuel
Pres.....President		Sans, or
pres.....present		Skr.....Sanskrit
Presb.....Presbyterian		Sb.....Antimony [<i>Stibium</i>]
pret.....preterit		s.c.....understand, supply, namely [<i>scilicet</i>]
prim.....primitive		S. C. or
priv.....privative		S. Car....South Carolina
prob.....probably, probable		Scand.....Scandinavian
Prof.....Professor		Scot.....Scotland, Scotch
pron.....pronoun		scr.....scruple, scruples
pron.....pronunciation, pronounced		Scrip.....Scripture [s], Scrip- tural
prop.....properly		sculp.....sculpture
pros.....prosody		S. D.....South Dakota
Prot.....Protestant		Se.....Selenium
Prov. or Pr. Provengal		sec.....secretary
Prov.....Proverbs		sec.....section
prov.....province, provincial		Sem.....Semitic
Prov. Eng.. Provincial English		Sep.....September
Prus.....Prussia, -n		Serv.....Servian
Ps.....Psalm, Psalms		Shaks.....Shakespeare
psychol....psychology		Si.....Silicon

ABBREVIATIONS.

Sic.....	Sicilian	trigon.....	trigonometry
sing.....	singular	Turk.....	Turkish
sis.....	sister	typog.....	typography, typographical
Skr. or Sans.....	Sanskirt	U.....	Uranium
Slav.....	Slavonic, Slavic	ult.....	ultimate, -ly
Sn.....	Tin [<i>Stannum</i>]	Unit.....	Unitarian
Soc.....	Society	Univ.....	Universalist
Song Sol...	Song of Solomon	Univ.....	University
Sp.....	Spanish	U. Presb...	United Presbyterian
sp. gr.....	specific gravity	U. S.	United States
sq.....	square	U. S. A....	United States Army
Sr.....	Senior	U. S. N....	United States Navy
Sr.....	Strontium	Ut.....	Utah
St.: Ste....	Saint	V.....	Vanadium
St.	street	v.....	verb
stat.....	statute	Va.....	Virginia
S.T.D.....	Doctor of Sacred Theology	var.....	variant [word]
subj.....	subjunctive	var.....	variety of [species]
suf.....	suffix	Ven.....	Venerable
Su. Goth...	Suo-Gothic	Venet.....	Venetian
superl.....	superlative	vet.....	veterinary
Supp.....	Supplement	v. i. or v. intr....	verb intransitive
Supt.....	Superintendent	vil.....	village
surg.....	surgery, surgical	viz.....	namely, to-wit [<i>vide-</i> <i>licet</i>]
Surv.....	surveying	v. n.....	verb neuter
Sw.....	Swedish	voc.....	vocative
Swab.....	Swabian	vol.....	volume
sym.....	symbol	vols.....	volunteers
syn.....	synonym, -y	Vt.....	Vermont
Syr.....	Syriac, Syrian	v. tr.....	verb transitive
t.....	town	W.....	Tungsten [<i>Wolfram</i>]
Ta.....	Tantalum	W.....	Welsh
Tart.....	Tartar	W. or w....	West, -ern, -ward
Te.....	Tellurium	Wal.....	Walachian
technol ...	technology	Wall.....	Walloon
teleg.....	telegraphy	Wash.....	Washington
Tenn.....	Tennessee	Westph....	Westphalia, -n
term.....	termination	W. Ind. {	West Indies, West
terr.....	territory	or W. I... } Indian	
Teut.....	Teutonic	Wis.....	Wisconsin
Tex.....	Texas	wt.....	weight
Th.....	Thorium	W. Va.....	West Virginia
theat.....	theatrical	Wyo.....	Wyoming
theol.....	theology, theological	Y.....	Yttrium
therap.....	therapeutics	yd.....	yard
Thess.....	Thessalonians	yr.....	year
Ti.....	Titanium	Zech.....	Zechariah
Tim.....	Timothy	Zeph.....	Zephaniah
Tit.....	Titus	Zn.....	Zinc
Tl.....	Thallium	zool.....	zoology, zoological
toxicol.....	toxicology	Zr.....	Zirconium
tp.....	township		
tr. or trans.	transitive		
transl.....	translation, trans- lated		

See also ABBREVIATIONS: in Vol. I.

THE IMPERIAL CYCLOPEDIA AND DICTIONARY.

CHAGRIN, n. *shă-grĭn'* [F. *chagrin*, care, grief, the rough substance called *shagreen*—a type of the gnawing of care and grief: Piedm. *sagrin*, care—from *sagrī*, shagreen: Pers. *saghri*, shagreen]: ill-humor; vexation: V. to excite ill-humor in; to vex. **CHAGRINING**, imp. **CHAGRINED'**, pp. *-grînd'*, vexed; displeased.

CHAIN, n. *chān* [F. *chaîne*; OF. *chaëne*—from L. *catēna*: Sp. *cadena*]: a series of links or rings, loosely but strongly connected, generally of some metal; something that binds or restrains; any connected series or range of things, as chain of ideas, chain of mountains; bondage; a measure of length of 100 links or 66 feet: V. to fasten; to bind with a chain, or in the manner of a chain; to enslave; to fix temporarily to one spot by the sudden exhibition or expression in words of something which can excite strong mental emotion, as fear, awe. **CHAIN'ING**, imp. **CHAINED**, pp. *chānd*. **CHAIN'LESS**, a. without chains. **CHAIN-MAIL**, or **CHAIN-ARMOR**, much used in the 12th and 13th c., consisted of hammered iron links, connected one to another into the form of a garment. Such armor was much more flexible and convenient to the wearer than that formed of steel or brass plates, but was less fitted to bear the thrust of a lance. **CHAIN-SHOT**, two cannon-balls connected by a short chain, formerly used in naval warfare; now mostly discarded, as grape-shot serves the same end. **CHAIN-WORK**, any sort of work in the form of links or rings. **CHAIN-RULE**, in *arith.*, a theorem for solving numerical problems by composition of ratios or compound proportion. **CHAIN-PUMP**, a pump consisting of an endless chain carrying small buckets. **CHAIN-STITCH**, an ornamental stitch resembling a chain; a loop-stitch in distinction from a lock-stitch.—**SYN.** of ‘chain, v.’: to fetter; bind; manacle; shackle.

CHAIN, in Surveying (called Gunter’s chain, from its inventor): measure of 22 yards long, composed of 100 iron links, each of which is thus 7·92 inches long. As an acre contains 4,840 sq. yards, 10 sq. chains ($22 \times 22 \times 10 = 4,840$ sq. yards), or 100,000 sq. links, make an acre.

CHAIN-BRIDGE: see **SUSPENSION BRIDGES**.

CHAIN-CABLE: see **CABLE**.

CHAINPORE CORAL—CHALAZA.

CHAINPORE CORAL: see CATENIPORA.

CHAINS, on Shipboard: strong iron links or plates, bolted at the lower end to the ship-timbers, and having a block or *dead-eye* at the upper end. Their purpose is to fasten down the shrouds tightly. They are brought out laterally at the top by resting in the middle against the channels, which are broad thick planks, very strongly fixed, and projecting horizontally from the side of the ship, one pair for each mast.

CHAINS, HANGING IN: barbarous adjunct to punishment in cases of atrocious crime, in England; abolished by law only as late as 1834, July 25. It was usual for courts of justice, in former times, to direct the bodies of such malefactors, after execution, to be hung in C. upon a gibbet near the spot where the crime was committed; but this, says Blackstone, ‘was no part of the legal judgment.’ The reasons commonly assigned for the practice are two: first, that it might strike terror into other offenders; and second, that it might afford ‘a *comfortable* sight to the relations and friends of the deceased.’ See PUNISHMENT: DISSECTION.

CHAIN-SNAKE, or KING-SNAKE (*Corenella getula*): American species, called also thunder-snake, found from N. Y. to Fla. It has a small head, a long narrow body, and a short thick tail, is handsomely variegated with black and white, and attains a length of over four ft. It is fond of damp and shady places, and feeds on mice, moles, birds, and reptiles.

CHAIR, or CHARE, n. *chär* [AS. *cyre*, a turn: Dut. *keeren*, to turn (see CHAR 3)]: the set of men and a boy who work together in a glass-work during a turn or shift.

CHAIR, n. *chär* [F. *chaire*, a pulpit—from L. *cathēdra*; Gr. *kathēdra*, a seat]: a movable seat with a support for the back; a seat of authority, as of the speaker of the house of commons, or of the chairman who presides at a public assembly; by metonymy, the person who occupies such a chair; the seat for, or the office of, a professor; the seat of authority; one of the grooved iron blocks resting on the sleepers that secure and support the rails of a railway: V. to carry in procession in a chair. CHAIR'ING, imp. CHAIRED, pp. *chärd*. CHAIR'MAN, n. the person that presides over a public or private assembly; the chief officer of a public company. CHAIR'MANSHIP, n. the office of a chairman. BATH-CHAIR, a small open carriage drawn by the hand. SEDAN-CHAIR: see note of next entry.

CHAISE, n. *shāz* [F. *chaise*, a pulpit, a chair—*lit.*, that which one can sit down in]: a light wheeled carriage drawn by one pony or horse. Note.—CHAISE is only a slight variation of *chaire*; in French both were formerly used in same sense; in Eng., for example, we have *sedan-chair*, a hand-carriage, usually borne on spokes, and carried by two men.

CHALAZA, n. *kă-lă'ză*, or CHALAZE', n. *-lăz'* [Gr. *chala'za*, hail, a small tubercle resembling a hailstone]: in bot., membrane which unites the nucleus and integuments at the base

CHALCEDON.

of an ovule; traversed by vessels which supply nourishment to the ovule. It is often of a different color from the rest of the integuments, presenting the appearance of a disc-like scar, and is conspicuous in the ripened seed; but it is sometimes difficult to distinguish it, particularly in *orthotropal* seeds, when it is in contact with the *hilum*, the *foramen* or *micropyle* being at the opposite extremity of the seed: see OVULE and SEED. CHALAZÆ, n. plu. *kū-lā'zē*, in an egg, two spirally twisted bands apparently formed of a peculiarly viscid albumen, having a pyramidal slope, one at each end, the apex adhering to the yolk, and the base to the white or glair; serving to keep the yolk bag near the middle as it floats in the albumen. CHALAZION, n. *kū-lā'zi-ōn*, a little tumor on the edge of the eyelid, so called from its supposed resemblance to a hailstone.

CHALCEDON, *kāl'sē-don*: city of anc. Bithynia, at the entrance of the Euxine, opposite Byzantium. It was founded B.C. 684 by a colony from Megara, and soon became a place of considerable trade and importance. It contained several temples, one of which, dedicated to Apollo, had an oracle. C. was taken by the Persians, suffered the vicissitudes of war during the strife for Grecian supremacy between the Athenians and Lacedæmonians, and finally merged into the Roman empire. During the Mithridatic war, it was the scene of a bold exploit of the Pontic sovereign. He invaded Bithynia, and all the wealthy Romans in the district fled for refuge to C., whereupon he broke the chains that protected the port, burned four ships, and towed away the remaining sixty. Under the empire it was made a free city, and was the scene of a general council, A.D. 451. Chosroes, the Persian, captured it A.D. 616, after which it declined, until it was finally demolished by the Turks, who used its ruins to build mosques and other edifices at Constantinople. C. was the birthplace of the philosopher Xenocrates.

CHALCEDON, COUNCIL OF: fourth universal council, assembled 451 by the emperor Marcian, for the purpose of drawing up a form of doctrine in regard to the nature of Christ, which should avoid the errors equally of the Nestorians (q.v.) and Monophysites (q.v.). 600 bishops, almost all of the Eastern or Greek Church, were present. The doctrine declared to be orthodox was, that in Christ there were two natures, which could not be intermixed (this clause was directed against the Monophysites), and which also were not in entire separation (this was directed against the Nestorians), but which were so conjoined, that their union destroyed neither the peculiarity of each nature, nor the oneness of Christ's person. The Chalcedonian Christology has remained as the orthodox standard in this department, in the Greek, the Roman, and predominantly in the Prot. communions to this day; though it is increasingly felt to be open to criticisms on the side of its psychology; and the conviction is becoming wider and more profound, that excellent for many uses as the Chalcedonian statement doubtless is, neither it nor any other formula of human philosophy can be accepted in Christ's church as the final,

CHALCEDONY—CHALCIS.

complete, and authoritative utterance on the transcendent theme of the person of the son of God.

CHALCEDONY, n. *kăl-sĕd'ō-nĭ* [see CALCEDONY, a frequent but less correct spelling]: beautiful mineral of the quartz family; rather a variety of quartz, from which it does not differ in chemical composition or any essential character. It derives its name from Chalcedon in Bithynia, near which it is found in abundance, and has been known by the same name from ancient times. It occurs in different kinds of rock, most frequently in old lavas and trap-rocks, and is found in almost all parts of the world where these exist, or where there are boulders derived from them. It is common in Scotland, and specimens of great beauty are brought from Iceland and the Faroe Islands. It never occurs in crystals. It constitutes the whole or the principal part of many agates. It is generally translucent, sometimes semi-transparent, has not much lustre, and is in color generally white or bluish white, sometimes reddish white, sometimes milk-white, less frequently gray, blue, green, yellow, brown, or even black. Its fracture is even, or very slightly conchoidal.—C. is much used in jewelry, for brooches, necklaces, and ornaments of all sorts, the largest pieces being sometimes made into little boxes, cups, etc. It was much used by the ancients, and many beautiful engraved specimens appear in antiquarian collections. Chalcedonies with disseminated spots of brown and red, were formerly very highly prized, and were called *Stigmites* or *St. Stephen's stones*. Petrified plants are sometimes found in C., in which they appear to have been incased while it was in course of formation. Specimens of C. are sometimes found inclosing a little water in the interior, which gives them a very beautiful appearance; but the water easily escapes, to prevent which, rings or other ornaments made of such stones are kept in distilled water, when not worn. The ancients set a very high value on these *en-hydrites* [Gr. *en*, and *hydor*, water]. The Vicentin was noted for producing them. CHALCEDONIC, a. -*sĕ-dĕn'ik*, pertaining to. CHALCEDONY, n. -*sĕd'ō-nĭks* [*chalcedony*, and *onyx*]: a variety of chalcedony; name given to agates formed of cachalong, or a white opaque chalcedony, alternating with a grayish translucent chalcedony.

CHALCHIUITL, *chál-che-wēt'l*: stone highly valued by the Mexicans of former times, and still by the Indians of New Mexico, who make ornaments of it. It is of a green color, and has been identified by W. P. Blake with turquoise. C. has been for centuries dug from a quarry in Los Corillos Mountains, 20 m. s.e. of Santa Fé. Specimens of it were among the presents made by Montezuma to Cortes. The Chinese *jade* and *seitau* are thought by Prof. Pumpetty to be Chalchihuitl.

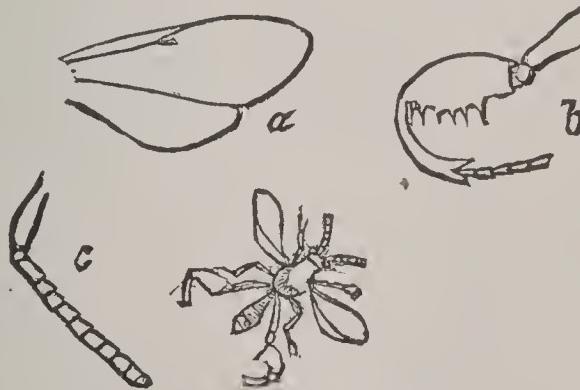
CHALCIS, *kăl'sis*: capital of the island and govt. of Eubœa, Greece; on the Euripus, a strait separating the island from Boeotia, and which at this point is only 120 ft. wide. The Euripus is divided into two channels, of un-

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equal breadth and depth, by a rock, which is surmounted by a castle, partly of Venetian and partly of Turkish construction. A stone bridge, some 70 ft. in length, connects the rock with the Boeotian shore, while a wooden and movable bridge of about 35 ft., connects it with Chalcis. C. is a place of very great antiquity, having been founded, as tradition asserts, before the Trojan war, by an Ionian colony from Athens. Its rise was rapid. It sent out numerous colonies, and was the centre of the trade of the w. Mediterranean. Governed at first by an aristocracy, it fell into the hands of the Athenians, who b.c. 506 divided the land of C. among some of their own number. It subsequently fell under the power of the Macedonians and Romans, and was at this time a place of great military importance, nearly nine m. in circumference, and had many fine temples, theatres, and other public buildings. Aristotle died at C. In the middle ages it was prosperous under the Venetians, who held it for nearly three centuries, until its conquest by the Turks, 1470. The lion of St. Mark, is or was until within recent years, seen over the gateway between the bridge and the citadel. The ancient remains now are few. The streets are narrow, but the houses, many of which owe their origin to the Venetians, are substantial and spacious. Pop. 7,000.

CHAL'CIS: genus of Saurian reptiles, type of a family called *Chalcidae*, some of which are popularly termed snake-lizards, because of the resemblance to snakes in the elongated form of the body, the limbs being also remarkably small, so that this family forms one of the transition links between the Saurian and the Ophidian reptiles. The scales are rectangular, and arranged in transverse bands, without being imbricated or disposed like tiles. The *Chalcidae* are natives of warm climates, both in the old and new worlds.

The name C. has also been applied to a genus of the



Chalcis Claripes,

One of the largest British species:

a, the wings of one side, magnified (very destitute of nervures);
b, hind-leg, magnified; c, antenna, magnified.

order *Hymenoptera*, allied to the Ichneumons, which has become the type of a tribe or family, containing a vast

CHALCOGRAPHY—CHALEUR BAY.

number of species—1,500 being supposed to exist in Britain—all of small size, many very minute, many very brilliant in their colors, and the larvæ of all parasitic in the larvæ or pupæ, some even in the eggs, of other insects. The chrysalis of a butterfly or moth often nourishes a great number of these parasites; and they are useful in preventing the excessive multiplication of species which destroy valuable plants.

CHALCOGRAPHY, n. *käl-kög'-rä-fi* [Gr. *chalkos*, copper; *grapho*, I write]: engraving on copper: a term which has been criticized in this use, and which is certainly inaccurate when applied, as it often is, to engraving on other metals, such as steel and zinc. For zinc-engraving, the still less admirable word *Zincography* has been invented.
CHALCOG'RAPHER, n. *rä-fer*, one who; also **CHALCOG'RAPHIST**, n. *-rä-fist*.

CHALCOLITE, n. *käl'kō-lít* [Gr. *chalkos*, copper; *lithos* a stone]: a mineral occurring in scales of an emerald-green color.

CHALCOPYRITES, n. plu. *käl'kō-pī'rīts* [Gr. *chalkos*, copper, and *pyrites*]: copper pyrites; a sulphide of copper and iron.

CHALCOTRICHITE, n. *käl'kō-trī'kit* [Gr. *chalkos*, copper; *thrix* or *tricha*, hair]: a variety of cuprite or red copper, occurring in long fine fibres of a beautiful red color—called *plush copper* in Cornwall.

CHALDÆ'A, or **CHALDEA**: see BABYLON—BABYLONIA.

CHALDAIC, a. *käl-dä'ik*, or **CHAL'DEE**, a. *-dē* [L. *Chaldei*; Gr *Chaldaioi*, the Chaldaeans]: pertaining to Chaldæa, or Chaldea: N. the language or dialect of the Chaldaeans, or Chaldeans. **CHALDÆAN**, or **CHALDE'AN**, n. *-dē'än*, a native of: ADJ. pertaining to. **CHALDÆAN** (or **CHALDEAN**) **CHRISTIANS**: see NESTORIANS. **CHALDA'ISM**, n. *-dä'izm*, an idiom or peculiarity in the Chaldee dialect.

CHAL'DEE: see ARAMÆA.

CHALDER, n. *chawl'dér* [OF. *chauldrone*; F. *chaudron*, a kettle]: in *Scot.*, a dry measure containing nearly eight imperial quarters. **CHALDRON**, n. *chawl'drōn* [from L. *caldarium*, a vessel for warm water]: measure for coals containing 36 heaped bushels; now largely disused, as coal is sold by weight.

CHÂLET, n. *shäl'ā* [F. and Swiss]: a summer hut or cottage on a mountain.

CHALEUR BAY, *shá-lör'*: inlet of the Gulf of St. Lawrence, between Gaspe, a dist. of Lower Canada, and New Brunswick; extending 90 m. from e. to w., and a width varying from 12 to 20. The Ristigouche, which enters the gulf from New Brunswick at its very head, marks, at its mouth the inter-provincial boundary.

CHALICE—CHALK.

CHALICE, n. *chāl-ēs* [It. and F. *calice*—from L. *calīcem*, a cup: Gr. *kulix* or *kulikă*, a cup]: a cup or bowl; a communion-cup.



Chalice:

Found in a Stone Coffin of the 12th c. in Chichester Cathedral.—Parker's *Glossary of Architecture*. The C. is the attribute of St. John the Evangelist.

CHALK, n. *chawk* [OF. *chaulx*; F. *chaux*—from L. *calx* or *calcem*, lime]: a soft calcareous stone of a white color, composed of carbonate of lime: V. to rub or mark with chalk. CHALK'ING, imp. CHALKED, pp. *chawkt*. CHALK'INESS, n. CHALK'Y, a. -ī, like chalk. CHALK-BEDS: see CRETACEOUS GROUP. To CHALK OUT, to lay out; to plan; to describe. RED-CHALK, a natural clay containing carbonate of iron. BROWN-CHALK, a familiar name for umber. BLACK-CHALK, a variety of drawing-slate. FRENCH-CHALK, or BRIANCON-CHALK, variety of steatite or soap-stone (q. v.). To CHALK OUT A PATH, to lay down plain rules and directions for guidance. BEAT ONE BY LONG CHALKS, defeated him thoroughly, referring to a former system of recording merit or excellence by chalk-marks.

CHALK: soft, earthy variety of limestone or carbonate of lime, forming great strata, and claiming the attention of the geologist, even more than of the mineralogist. It is generally yellowish-white, sometimes snow-white. It is easily broken, and has an earthy fracture, is rough and very meagre to the touch, and adheres slightly to the tongue. It generally contains a little silica, alumina, or magnesia, sometimes all of these. Although often very soft and earthy it is sometimes so compact that it can be used as a building-stone; and it is used for this purpose, either rough or sawn into blocks of proper shape and size. It is burned into quicklime, and nearly all the houses in London are cemented with mortar so procured. The silicious particles being separated by pounding and diffusing in water, it becomes whiting, for domestic uses. Carpenters and others use it for making marks, which are easily effaced; on the *black-board* it has the same use. C., perfectly purified, is mixed with vegetable coloring matters, such as turmeric, litmus, saffron, and sap-green, to form pastil colors; but vegetable colors which contain an acid are changed by it: see CRAYON. The *Vienna white* of artists is simply purified chalk. In a perfectly purified state, it is administered as a medicine, to correct acidity in

CHALK—CHALLENGE.

the stomach. C. is also extensively used as manure: see LIME, as a manure.

CHALK, BLACK, or DRAWING-SLATE: mineral quite different from common chalk, and apparently receives its name from resembling it in meagreness to the touch, in soiling the fingers, and in being used for drawing, writing, etc.: essentially a kind of clay (q.v.), and derives its color from the carbon which it contains. It is of slaty structure, bluish or grayish black, becoming red by exposure to heat; is easily cut and broken, and makes a perfectly black mark on paper. It is used for drawing, and as a black color in painting. It is found in primitive mountains, in Spain, France, Italy, etc.; also in the coal formation in Scotland.

CHALK, RED: *Ochry Red Clay-iron-ore*, consisting of clay and much peroxide of iron. It is of brownish-red color, and somewhat slaty structure, the cross fracture earthy. The coarser varieties are used chiefly by carpenters for making marks on wood, and by tailors for marking on cloth; the finer, by painters. It occurs in thin beds in clay-slate and grauwacke-slate in parts of Germany.

CHALKING THE DOOR, in Scotland: a mode of warning tenants to remove from burghal tenements; long known and still in use. Its execution is a warrant under which decree of removal will be pronounced by the burgh-court, in virtue of which the tenant may be ejected on the expiration of a charge of six days: see EJECTMENT.

CHALKLEY, *chaw'le*, THOMAS: 1675, Mar. 3—1741, Sep. 4; b. London. He was impressed into the navy 1695, but released because, as a Quaker, he would not bear arms; became a trader, and at last a Quaker preacher; went to America 1698, and travelled a year in Va. and New England; married in England, settled at Philadelphia, and devoted himself to an itinerant ministry. He visited England, Holland, and Germany, 1707–8, and the W. Indies several times; on one of these journeys he died at Tortolo, one of the Virgin Isles, having founded the Friends' Library at Philadelphia by bequest. His Journal appeared at Philadelphia 1747, and at New York 1808.

CHALKY ISLAND: in New Zealand, near the s.w. extremity of Middle Island, about lat. 46° s., and long. $166^{\circ} 20'$ e. It takes its name from being composed of a mass of white limestone, and imparts the same name to the adjacent bay of 16 m. in length, also to one of the harbors of the inlet.

CHALLENGE, n. *chal'lēn̄j* [OF. *chalanger*, to challenge; *chalange*, a dispute, an accusation—from L. *calumniārē*, to institute an action at law]: a call or summons to fight in single combat, to enter on a discussion, etc.; the letter or message containing the summons; an exception taken to a voter or juror; the demand of a soldier on sentry; in *OE.*, a claim: V. to call or summon to fight (see DUEL); to call upon to answer; to call upon to prove an assertion or sustain a decision; to take exception to a juror (see JURY); in

CHALLENGER EXPEDITION.

OE., to claim as due. CHAL'LENGING, imp. CHAL'LENGED, pp. and a. -*lēnjd*. CHAL'LENGER, n. one who. CHAL'LENGABLE, a. -*ă-bl*, that may be challenged or called in question.

CHALLENGER EXPEDITION: circumnavigating, scientific exploration of the open sea, 1872-76. Before the projecting of the Atlantic cable the prevalent ideas as to the biological conditions at the bottom of the sea were vague. It was assumed that light, as a condition of life, penetrated to a very limited depth into the sea; that pelagic life was consequently confined to a narrow fringe round the land; that at a depth of some 100 fathoms vegetable life became almost extinct; and that below 300 fathoms the sea was a desolate waste. The project of a cable, however, to link the old and new worlds called attention to the nature of the sea bottom, and expeditions for its investigation were undertaken by the British and United States governments. On the application of Professor Wyville Thomson and Dr. Carpenter, the *Lightning* was, 1868, put in readiness as a surveying ship; and a cruise between Scotland and the Färöe Isles revealed the fact that life ranging through all the invertebrate classes abounded to a depth of at least 600 fathoms, and that the sea was traversed and occupied by vast currents and layers of water of the most varying temperatures and fauna. These results were extended by two cruises, 1869 and '70, of the *Porcupine* off the w. coast of Europe and in the Mediterranean. In 1872 the *Challenger*, a corvette of 2,306 tons and 1,234 horse-power, was completely fitted and furnished with every scientific appliance for examining the sea from surface to bottom—natural history work-room, chemical laboratory, aquarium, etc. The ship was given in charge to a full naval surveying staff with Captain Nares at their head; and to a full scientific staff, with Professor Wyville Thomson at their head, for the purpose of sounding the depths, mapping the basins, and determining the physical and biological conditions of the Atlantic, the Southern, and the Pacific Oceans. The *Challenger* weighed anchor at Sheerness, 1872, Dec. 7, and on the evening of 1876, May 24, she dropped anchor at Spithead; having in these three and a half years executed her commission with singular success. In that period she cruised over 68,900 nautical miles, and established 362 stations, at which were determined the depth of channel; the bottom, surface, and intermediate temperatures, currents, and fauna; and the atmospheric and meteorological conditions. The first sounding was taken Dec. 30, when, at a point 40 m. w. of Vigo Bay, 1,125 fathoms were counted. Leaving Gibraltar Jan. 26, the party had a week's sounding, trawling, dredging, and taking of temperatures on their course to Madeira. The dredgings brought to light a number of new and surprising animal forms. Geological and zoological collections were made off Teneriffe. The greatest sounding made as far as the Canary Isles was off Cape St. Vincent, when 2,500 fathoms (15,000 ft., nearly equal to a reversed Mont Blanc) were found. A section was next made directly across the

CHALLENGER EXPEDITION.

Atlantic from Teneriffe to Sombrero in the W. Indies, reached 1873, Mar. Along this line observations were made at 23 stations regarding depth, condition, and temperature of bottom. It was generally observed that during the heat of the day the greater number of animal forms retire to a depth of a few fathoms, and came up in the cool of the evening. As to meteorological observations, more than 50,000 were made in the first year of the cruise. At a mean maximum depth of 2,200 fathoms the ooze at the bottom showed one vast mass of the calcareous shells of foraminifera; but as the soundings went deeper the ooze got darker, with less and less calcareous matter. Red ooze at a depth of 3,150 fathoms showed no calcareous matter. Everywhere, from the equator to the Polar ice, the surface water contains globigerinæ, but more abundant and of larger size in warm seas. Altogether, the section from Teneriffe to Sombrero gave: (1) 80 m. of volcanic mud and sand; (2) 350 m. of globigerina ooze; (3) 1,050 m. of red clay; (4) a rising ground for 350 m. of globigerina ooze; (5) a valley of 850 m. of red clay; and (6) 40 m. of globigerina ooze. The red clay was regarded as the insoluble residue or ash of the calcareous organisms forming the globigerina ooze after the calcareous matter had been washed out. The water at the bottom, and to within 500 fathoms of the surface, was found to have the same specific gravity, but thence the specific gravity rose till it attained its maximum on the surface. Leaving the Bermudas in April the *Challenger* made a detour by way of Sandy Hook, N. J., and Little George Bank to Halifax, Nova Scotia, and then back, straight s. to the Bermudas. The Azores, Cape de Verde, St. Paul's Rocks, Fernando Noronha, Bahia, Tristan d'Acunha, and the Cape of Good Hope reached in Oct. were points on the next route; and then on by Marion and the Crozet Islands, by Kerguelen and the Heard Islands, as far s. as $65^{\circ} 42'$ s. lat., and on to Melbourne, reached 1874, Mar. The specimens brought up off Raoul Island from a depth of 600 fathoms showed that here the s. corresponded closely to the n. Through the coral reefs, through the Melanesian and Chinese Seas, the *Challenger* steered till she arrived at Hong-Kong 1874, Nov. 16, having inspected 17,000 m. of water since she left the Cape. Between Ké and Amboina, a wonderful variety of forms was discovered. In the section from the Admiralty Isles to Japan the *Challenger* made her greatest sounding (1875, Mar. 23), 4,575 fathoms (equal to a reversed Himalaya), deepest sounding on record except two. The bottom consisted almost entirely of siliceous shells of radiolaria. A voyage was made along the Japanese coasts and eastward as far as 135° e. Valparaiso, Magellan's Straits, Falkland Islands, Montevideo, Vigo, and Portsmouth, mark the remaining course. The average of 22 soundings from Yokohama to Honolulu gave 2,858 fathoms, and the bottom was found generally of red clay, full of concretions, mainly of peroxide of manganese, round, oval, or mammillated. Among the conclusions established by the *Challenger* expedition are: 1. That animal life exists on the bottom of

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the sea at all depths. 2. That the fauna of deep water are confined mainly to two strata, one at and near the surface, the other at and near the bottom. 3. That the abyssal fauna are more nearly related than are those of shallower waters to the remains of the tertiary and secondary geologic periods. 4. That the most characteristic forms of animal life in deep seas, and those most allied to extinct specimens seem more abundant and of larger size in the Southern Ocean, and that the migration of species seems to be toward the Atlantic and Pacific. For the literature of the subject see the very copious *Reports on the Scientific Results of the Voyage of H.M.S. Challenger* (of which the 10th vol. was published 1884; and a condensed *Narrative*, two vols. 1885), edited by J. Murray: and the works of Sir C. Wyville Thomson, H. N. Moseley, Spry, Lord George Campbell, Wild. See also ATLANTIC OCEAN: PACIFIC OCEAN: DREDGE: HYDROGRAPHY: SEA: SOUNDING, DEEP SEA.

CHALLIS, n. *shāl'li*: an elegant twilled fine woolen fabric, for ladies' dresses.

CHALLONER, *chāl'lōn-er*, RICHARD, D.D.: 1691, Sep. 29—1781, Jan. 12; b. Lewes, in Sussex, England. His father was a Dissenter, but he was bred among Rom. Catholics, and sent, 1704, to the English college at Douay; here he became a priest and prof. He was sent on the English mission, 1730, and stationed at London, which he found it prudent to leave for a time after publishing *The Catholic Christian Instructed*, containing a reply to Middleton's famous *Letter from Rome*. His *Church History* (1737) filled three vols. folio. Gaining much reputation as a controversialist, C. was made Bishop of Debra *in partibus*, 1741, and coadjutor to Bp. Petre, vicar apostolic of the London district. On Petre's death, 1758, C. succeeded to that post. His *Garden of the Soul* is still a popular book of devotion. His *Britannia Sancta* (1745) celebrated the national saints. His *Memoirs of Missionary Priests*, etc. (two vols., 1741), designed as an antidote to Fox's *Book of Martyrs*, tells the story of Rom. Cath. victims of Protestant persecution in England. C. was obliged to leave London again during the 'no popery' riots of 1780, and died at Milton, in Berkshire. His *Life* was written by Jas. Barnard, 1784.

CHALMERS, *chāl'mērz*, ALEXANDER: 1759–1834; b. Aberdeen. A printer's son, he studied medicine, went to London abt. 1777, wrote for the papers and reviews, and for a time edited the *Morning Herald*. He published editions of Shakespeare and sundry British classics; an edition of the Poets, 21 vols., 1810; the *Essayists*, some 50 vols., 1808, 1822, etc.; and a *General Biographical Dictionary*, 32 vols. 1812–17. He was a careful and laborious compiler: 'No man ever edited so many works for the book-sellers of London.'

CHALMERS, *chāl'mērz*, Sc. *chaw'mērz*, GEORGE: 1742–1825; b. Fochabers, Morayshire, Scotland: historical antiquary. Having attended King's College, Aberdeen, and

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studied law at Edinburgh, he went, 1763, to N. America, where he practiced as a lawyer till the breaking out of the war of independence. Being a keen loyalist he returned to Britain where he was appointed clerk to the board of trade, 1786, and held the office till his death. His great work is his *Caledonia; an Account, Historical and Topographical, of North Britain*; a production of profound research and varied erudition. The first vol., historical, appeared 1807; of the other three, which were intended to give an account of the several countries, the second appeared 1810; the third 1824. A fourth vol. is understood to have been left at his death, ready for the press.

Among his other publications are: *Political Annals of the United Colonies* (Lond. 1780); *On the Comparative Strength of Great Britain during the Present and the four Preceding Reigns* (Lond. 1782, '86, '94, 1802, '12); *A Collection of Treaties between Great Britain and other Powers* (2 vols., Lond. 1790); *Life of Daniel Defoe* (Lond. 1786); *Life of Thomas Ruddiman* (1794); *Life of Mary Queen of Scots* (Lond. 1818); editions of the works of Allan Ramsay (1800), and of Sir David Lindsay (1806), with memoirs; also various pamphlets apologizing for those, himself included, who had believed in the authenticity of the Shakespeare manuscripts forged by Mr. Ireland.

CHĀLMERS, chāl'mērz, Sc. chaw'merz, THOMAS, D.D., LL.D.: 1780, Mar. 17—1847, May 30; b. Anstruther, Fife-shire, Scotland: educated at the Univ. of St. Andrews, and in his 19th year licensed to preach in the (Presb.) Church of Scotland. In 1803 he was ordained minister of the parish of Kilmany, Fifeshire, about 9 m. from St. Andrews. At this period, his attention was entirely absorbed by mathematics and natural philosophy, to the neglect of the studies appertaining to his profession. To gratify his love of scientific pursuits, he even formed mathematical and chemistry classes in St. Andrews during the winter of 1803-4, and by his wonderful enthusiasm and lucidity of exposition excited intense interest, and obtained great reputation. In 1808 he published an *Inquiry into the Extent and Stability of National Resources*, which proved his capacity for dealing with questions of political economy. Shortly after this, certain domestic calamities, and a severe illness of his own, stirred his deepest nature, and rendered him keenly susceptible to religious impressions. Having to prepare an article on Christianity for Brewster's *Edinburgh Encyc.*, he commenced an extensive study of the evidences, and rose from his investigations convinced that Christianity was a *fact*, and the Bible the veritable 'word of God.' Then the great genius of the man broke forth like sunshine. He grew earnest, eloquent, devout, and faithful to his pastoral duties. In 1815, July, he was translated to the Tron Church and parish, Glasgow, where his magnificent oratory took the city by storm. His *Astronomical Discourses* were probably the most sublimely intellectual and imaginative that had ever been preached in a Scottish pulpit. They were published 1817, and had a prodigious popularity. During the same year he visited London, where his preaching

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excited as great sensation as at home. But C.'s energies could not be exhausted by mere oratory. Discovering that his parish was in a state of great ignorance and immorality, he began to devise a scheme for overtaking and checking the alarming evil. It seemed to him that the only means by which this could be accomplished was by 'revivifying, remodelling, and extending the old parochial economy of Scotland,' which had proved so fruitful of good in the rural parishes. In order to wrestle more closely with the ignorance and vice of Glasgow, C., 1819, became minister of St. John's parish, 'the population of which was made up principally of weavers, laborers, factory-workers, and other operatives.' 'Of its 2,000 families,' says Dr. Hanna, 'more than 800 had no connection with any Christian church, while the number of its uneducated children was countless.' We have not space to narrate at length how vast and successful were the labors of Chalmers. It is sufficient to say, that in pursuance of his favorite plan, he broke up his parish into 25 districts, each of which he placed under separate management, and established two week-day schools, and between 40 and 50 local Sunday schools, for the instruction of the children of the 'poorer and neglected classes,' more than 1,000 of whom attended. In a multitude of other ways he sought to elevate and purify the lives of his parishioners. While in Glasgow, C. had matured his opinions relative to the best method of providing for the poor. He disliked the English system of a 'compulsory assessment,' and preferred the old Scotch method of voluntary contributions at the church-door, administered by elders. The management of the poor in the parish of St. John's was intrusted to his care by the authorities, as an experiment, and in four years he reduced the pauper expenditure from £1,400 to £280 per annum.

But such herculean toils began to undermine his constitution, and in 1823 he accepted the offer of the moral philosophy chair in St. Andrews, where he wrote his treatise on the *Use and Abuse of Literary and Ecclesiastical Endowments* (1827). In the following year, he was transferred to the chair of theology in Edinburgh, and in 1832 published a work on political economy. In 1833 appeared his Bridge-water treatise, *On the Adaptation of External Nature to the Moral and Intellectual Constitution of Man*. It was received with great favor, and obtained for the author many literary honors; the Royal Soc. of Edinburgh electing him a fellow, and the French Institute a corresponding member, while the Univ. of Oxford conferred on him the degree D.C.L. In 1834, he was appointed convener of the church-extension committee; and after seven years of enthusiastic labor announced that upward of £300,000 had been collected from the nation, and 220 new churches built. Meanwhile, however, troubles were springing up in the bosom of the church itself. The evangelical party had become predominant in the gen. assembly, and came forward as the vindicators of popular rights, especially in relation to the settlement of pastors; the struggles in regard to patronage between them and the 'moderate' or 'Erastian' party became keener and

CHALONS-SUR-MARNE—CHALON-SUR-SAONE.

more frequent, until the decision of the civil courts in the famous 'Auchterarder and Strathbogie' cases brought matters to a crisis; and 1843, May 18, C., followed by 474 clergymen, left the church of his fathers, rather than sacrifice those principles which he believed essential to the purity, honor, and independence of the church: see DISRUPTION: FREE CHURCH OF SCOTLAND. The rapid formation and organization of the Free Church were greatly owing to his indefatigable exertions, in consequence of which he was elected principal of the Free Church College, and spent the close of his life in the zealous performance of his learned duties, and in perfecting his *Institutes of Theology*. Dr. C. died suddenly at Morningside, Edinburgh.

Dr. C.'s works comprise more than 30 vols., and contain valuable and, in some cases, original contributions to the sciences of natural theology, Christian apologetics, and political economy; while on minor topics, such as the church-establishment question, they show both novelty and ingenuity of argument. As an orator, C. was unique and unrivalled. We read of men, in the history of the Christian church, whom we can believe to have been as eloquent, impassioned, and earnest; there have been in Scotland loftier and more purely original minds; but scarcely anywhere in Christian history do we encounter a man in whom intellect, feeling, and imagination were so harmoniously combined—a nature so 'nobly planned, to warn, to comfort, and command.' Scotland never produced a greater or more lovable soul, one more gentle, guileless, genial-hearted, or yet more fervid from the strength of a resolute and irresistible will before whose impetus difficulties were dashed aside as by a torrent. His Christian faith and piety were both intense and humane.

CHALONS-SUR-MARNE, *shá-lōng'sür-márñ*: town of France, dept. of Marne, 107 m. e. of Paris by railway. It stands on the right bank of the river Marne, here crossed by a handsome stone bridge. C. is old; and the houses are chiefly of timber, lath, and plaster. The situation is agreeable, and the town contains some fine public buildings, the chief being the cathedral, in the sanctuary of which is one of the finest grand altars in France. On the e. side of the town is the splendid *Promenade du Jard*, or park, 19 acres. C. has manufactures of woolen, cotton, leather, etc., and considerable trade in grain, hemp, rape-seed oil, and Champagne wine. In 451, the Romans and Goths defeated Attila and his host of Huns near C. In 1856, Napoleon III. formed the celebrated camp of C., to the n.e. of the town. Hence, during the Franco-Prussian war, and in the night of 1870, Aug. 21, MacMahon withdrew his troops; and next day the town was occupied by the Germans.—In 1284 the pop. was 60,000. Pop. (1891) 25,863.

CHALON-SUR-SAONE, *shá-lōng'sür-sôñ*: town of France, dept. of Saone-et-Loire, about 33 m. n. of Mâcon. It is on the right bank of the Saone, at the point where that river is joined by the Canal-du-Centre, which unites the Saone with the Loire, and secures C. an extensive traffic

CHALYBÆUS—CHALYBEATE WATERS.

with the central districts of France, as well as with the Mediterranean and Atlantic. The site is that of the anc. *Cabillonum* or *Cabalinum*. The town is generally well built, good quays line the river, along which also the finest houses extend. Vineyards, wood, meadows, and cultivated fields surround and add variety and beauty to the situation. Its manufactures include hats, hosiery, vinegar, oil, pottery, jewelry, and imitation pearls; and it has a large trade in the agricultural and other produce of the district. Steam-boats navigate the Soane from C. downward. Pop. (1881) 21,156 ; (1891) 24,686.

CHALYBÆUS, *kal-i-bē'üs*: genus of birds very closely allied to the Baritahs (q.v.), but having a rather thicker bill, and the nostrils pierced in a broad membranous space. The species are natives of New Guinea, and are of most beautiful plumage, remarkable for the brilliancy of their metallic tints, particularly for the resemblance to burnished steel, to which they owe their name [Gr. *chalyps*, -*ybos*, steel]. On this account, they are sometimes included under the name of birds of paradise; and the skin of *C. paradiseus*, deprived of its feet, is sold as that of a bird of paradise.

CHALYBÆUS, *chá-le-bé'üs*, HEINRICH MORITZ: 1796, July 3—1862; b. Pfaffroda, in Saxony; German philosopher. He was educated at Leipsic, and after some years in teaching he was appointed, 1839, prof. of philosophy in the Univ. of Kiel, where he remained till his death. His chief works are the *Historische Entwicklung der speculativen Philosophie von Kant bis Hegel* (1836—English translations by Edersheim and Tulk); *System der speculativen Ethik* (1850); *Philosophie und Christenthum* (1853); and *Fundamental Philosophie* (1861).

CHALYBEATE, n. *ká-lib'i-āt* [L. *chalybs*; Gr. *chalups*, very hard iron; F. *chalybe*, chalybeate]: medicine or water containing a solution of iron: ADJ. impregnated with iron; having a taste like that of iron. CHALYBITE, n. *kálib'i-bit*, an iron ore—called also sparry or spathose iron, carbonate of iron, or siderite. CHALYBEAN, a. *ká-lib'i-ān*, having the highest quality of steel.

CHALYBEATE WATERS, *ka-lib'e-āt*: those which contain a considerable proportion of iron in solution. They are of two kinds, *Carbonated* and *Sulphated*. The *Carbonated* C. W. contain carbonate of iron (FeO, CO_2) dissolved in excess of carbonic acid, and may be recognized by forming an ochry deposit of red oxide of iron (Fe_2O_3) on the surface of the stones near the mouths of the springs, owing to the escape of the carbonic acid on exposure to the air. Islington Spa near London, Tunbridge Wells, and Oddy's Saline C. W. at Harrogate, are examples of this class. Where an excess of carbonic acid is present, communicating a sparkling aspect to the water and an acidulous taste, as at Pyrmont, and other places, the term *acidulo-chalybeate* or *acidulo-ferruginous* is applied. The *Sulphated* C. W. contain sulphate of iron (FeO, SO_3) dissolved in them; examples of this class are at the Isle of Wight (the

CHAM—CHAMÆROPS.

Sand Rock Spring), Vicars Bridge, Moffat, etc. C. W. are characterized by a more or less inky or styptic taste; by becoming of a purplish black tint when infusion of galls or tea, and some varieties of wine, are added; and by giving a pale-blue color on the addition of a few drops of ferrocyanide of potassium (yellow prussiate of potash). C. W. are of great service in cases of debility, and the *acidulo-carbonated* kind being lighter on the stomach, is generally preferred; but all C. W. are to be avoided in plethoric, febrile, and inflammatory conditions of the system.

CHAM, n. *kām* [a western corruption of Pers. *khan*, lord]: formerly the sovereign prince of Tatary; also written KHAM.

CHAM: see NOE, AMEDÉE DE.

CHAMA, *kā'ma*, or *kām'a*: genus of lamellibranchiate mollusks. The shell consists of two unequal valves, having two hinge-teeth in the one valve, and one in the other. The general form of the shell approaches to orbicular. The shell is generally thick, and is foliated with leaf-like projections, which arise in a somewhat regular manner from its surface; these and the colors of some of the species combine to make them very beautiful. The shells of the *Chamæ* are often called *Clams* or *Clamp-shells*, a name which they share with some of the *Pectens*, *Spondyli*, etc. They are found only in the seas of warm climates, none further n. than the Mediterranean. The Linnaean genus C. contained many species now removed to other families, but the restricted genus C. is the type of a family *Chamidæ*. 30 fossil species have been referred to C., 4 from the Cretaceous period, and 26 from the Tertiary.

CHAMADE, n. *shā-mād'* [F. *chamade*—from It. *chia-mata*, an appeal: Port. *chamar*; L. *clamīrē*, to call]: beat of a drum or sound of a trumpet inviting an enemy to a parley: see PARLEY.

CHAMÆROPS, *kām-ē'rops*: genus of palms, with fan-shaped leaves, less exclusively tropical than palms in general. One species, *C. humilis*, called sometimes the PALMETTO, is the only palm truly indigenous to Europe. It extends as far n. as the neighborhood of Nice. The flowers are in spathes about 6–8 inches long; the fruit is a triple blackish spongy drupe, which is eaten, as are also the young shoots. This palm is so tolerant of a cold climate, that a specimen has lived in the open air in the botanic garden of Edinburgh for more than 50 years, with the protection of matting in very severe winters. In its native regions, the leaves are much used for thatching, and for making brooms, hats, chair-bottoms, etc. They abound in an excellent fibre, which the Arabs mix with camel's hair, and make into tent covers: cordage, and sometimes sail-cloth, are made of it in Spain; it is imported into France, and used for making carpets, under the name of *African hair*. The French in Algeria make paper and pasteboard.

CHAMALARI—CHAMBER.

of it; and it is supposed that it may prove a valuable commercial commodity, as a material for paper-making.—Other species of the genus abundant in India, China, etc., serve similar purposes, and deserve attention in connection



Chamærops humilis.

with paper.—To this genus belongs also the W. Indian palm, which yields the material for chip-hats (see BRAZILIAN GRASS); and the Palmetto (q.v.) of N. America is by some botanists referred to it.

CHAMALARI, *kám-a-lá'rē*: peak of the Himalaya between Tibet and Bhotan; lat. $28^{\circ} 4'$ n., long. 90° e.; said to have an elevation of 27,200 ft. or more than five m. and a furlong.

CHAMBER, n. *chám'bér* [F. *chambre*, a chamber—from L. *caméra*; Gr. *kamára*, a vault or arched roof—*lit.*, a place or apartment having an arched roof]: an apartment in a house; a retired room; a bedroom; a hollow or cavity; a political or commercial body, as a *chamber of commerce*; one of the component parts of a legislature; that part of a gun which contains the powder, etc., called the charge; in a *mine*, the spot where the powder is placed. CHAM'BERING, n. immodest behavior. CHAM'BERED, -*bér'd*, consisting of chambers or cavities; divided into cavities. CHAM'BER-LAIN, n. -*lín* [F. *chambellan*; OF. *chambellanc*, or *chamberlenc*, a chamberlain—from It. *camarlingo*; O.H.G. *chamerling*]: one who has the charge of the apartments, etc., of a sovereign or noble; a servant who has the care of chambers; the chief official on great estates; the treasurer of a corporation. CHAM'BERLAINSHIP, n. the office of. CHAMBERS, n. plu. rooms in an inn of court or otherwise, where lawyers or other professional men reside or transact their business. CHAM'BER-MAID, a woman who cleans and

CHAMBER—CHAMBERLAIN.

arranges bedrooms. CHAMBER COUNSEL, a barrister who gives legal advice privately, or at his own chambers, but does not practice in court. CHAMBER PRACTICE, the practice of a barrister who gives his opinions privately or in his chambers.

CHAM'BER, of a piece of artillery, or small arm: a contracted part of the bore, at the breech end. The C. contains the charge of powder, but is too small to contain the shot or shell. Some of these cavities are spherical, some cylindrical, some conical with a hemispherical termination, and some pear-shaped. Carronades and shell-guns are usually chambered. The charge just fits the C., and the ball or shell comes in contact with it. Chambered guns are more slow to load and fire than those which are not chambered; and therefore the adoption of this form depends much on the kind of service in which the weapon is to be employed. Its primary use is in kinds of ordnance in which the charge is small compared with the calibre, and in which, consequently, there would be great loss of power, unless the charge were confined within a comparatively limited space at the time of the explosion.

CHAMBERLAIN, *chām'bēr-līn*: DEXTER H.: 1807-88: inventor. His parents were members of the first mission in the Sandwich Islands, and he accompanied them to their mission home. He subsequently became one of the most prolific inventors of the past half century, his genius lying in the direction of mechanical devices of current necessity. Among his noted inventions were the hand planer and power planer now used in all large iron mills; the Hartshorne spring curtain-roller; the self-dating stamp; a leather-splitting machine; the auger and bit used by carpenters; a machine for making hooks and eyes for dresses; and a repeating rifle. Died Boston.

CHAMBERLAIN, JOSEPH: English statesman: b. London, 1836, July. He was educated at Univ. College School; joined his father's firm of wood-screw manufacturers; applied his leisure to the study of politics; was elected chairman of the school board, member of the town council, and mayor of Birmingham 1873; and in the following year retired from business to apply his whole time to public life. He was re-elected mayor 1874 and 75; defeated for parliament 1874; elected thereto to fill a vacancy 1876; and by re-elections represented Birmingham several times. He early identified himself with the Home Rule (q.v.) party; was appointed by Mr. Gladstone pres. of the board of trade with cabinet rank 1880; prepared the present English Bankruptcy Act; failed to secure the passage of a strong merchant shipping bill; and continued in the 'advanced wing' of the radical party till 1886, when, differing with Prime Minister Gladstone's home rule policy, he resigned his cabinet post of pres. of the local govt. board. After the election 1886, he withdrew from the Gladstone party, and became a unionist. In 1887 he was appointed British commissioner to the conference at Washington for the settlement of the fisheries disputes between the United States

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and Canada, and signed the treaty that the U. S. senate rejected. In 1888, he returned to the United States and was married to Mary Endicott, daughter of the sec. of war. He became Colonial Minister, 1895, and as such had to face the troubles in South Africa. In 1900 he carried the Australian Federation measure in Parliament.

CHAMBERLAIN, JOSHUA LAWRENCE, LL.D.: soldier: b. Brewer, Me., 1828, Sep. 8. His father and grandfather, both of the same name, were officers severally in the 'Aroostook war' and that of 1812. He graduated at Bowdoin College 1853 and at Bangor Theol. Seminary 1855, but never was ordained; returned to Bowdoin as a tutor; was prof. there of rhetoric 1856-62, instructor in modern languages 1857, and nominally prof. of modern languages 1861-65; and obtaining leave of absence from the trustees for the purpose of foreign study 1862, changed his mind and joined the army as lieut. col. 20th Me. inf. He was promoted col. 1863, brig. gen. on the field 1864, and brevet maj. gen. vols. 1865. During the war he participated in 24 battles and received six wounds, three of them severe; and was appointed the officer to receive the formal surrender of the arms and colors of the Confederate army under Gen. Lee. After the close of the war he resumed his professorship at Bowdoin College, but was soon afterward elected gov. of Me., and by three re-elections held the office till 1871. On retiring from this office he was elected pres. of Bowdoin College, and served as such till 1883, beside occupying the chair of mental and moral philosophy 1874-79. In 1876 he was appointed maj. gen. of Me. militia; 1878 was a U. S. commissioner to the Paris exhibition; and till 1885 lectured on public law and political economy in Bowdoin College. He is author of *Maine: Her Place in History*, centennial oration (Augusta, 1877); and *Education in Europe* (U. S. govt., Washington, 1879).

CHAMBERLAIN, LORD, or KING'S CHAMBERLAIN: as he was formerly called, has been one of the principal officers of the English state from very early times, and for centuries was an influential member of the government. He has the function of endorsing the king's answer on petitions presented to him, and very often of communicating his majesty's pleasure to parliament and to the council. He was always a member of the council himself, *ex officio*. Though he has long ceased to have any share in the responsibilities of government, the C. is still an officer of very high standing in the royal household. He has control over all the officers and servants of the royal chambers, except those of the bed-chamber, over the establishment attached to the chapel royal, the physicians, surgeons, and apothecaries of the household. The C. has further the oversight of the queen's musicians, comedians, trumpeters, messengers, etc.; and all tradesmen and artificers in her service are appointed by him. When the office of keeper of the great wardrobe was abolished, 1782, the duties of providing the state-robés of the royal family, the household, and officers of state, devolved on the lord chamberlain. All theatres in towns in which a royal palace is situated,

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require to be licensed by the Lord C., and no new play can be performed anywhere without his license. All persons desiring to be presented at levees or drawing-rooms require to send their card to the Lord C., and it is his duty to see that the persons thus applying are entitled by station and character to be presented to the queen. The C. also issues her majesty's invitations to balls, parties, etc. In accordance with ancient custom, the Lord C. is still a member of the privy council. His salary is £2,000 a year, but his tenure of office depends on that of the political party to which he belongs.

The VICE-CHAMBERLAIN is the deputy and assistant of the Lord C., and in his absence exercises the full authority which belongs to his principal. His office existed in the time of Richard II. He is also dependent on the administration, and is usually a member of the privy council. His salary is £924 per annum.

CHAMBERLAIN, THE LORD GREAT: hereditary officer of great antiquity, formerly of great importance. He has the government of the palace at Westminster; and, on solemn occasions, the keys of Westminster hall and of the court of requests are delivered to him. At these times, the gentleman usher of the black rod, the yeoman usher, and the door-keepers, are under his orders. At coronations, state-trials, banquets, and the like, the fitting-up of the hall devolves on him. When the queen goes to parliament, he delivers the sword of state to any member of the administration whom he chooses, to be borne before her majesty, he himself walking on her right hand. During the sitting of parliament, he has charge of the house of lords, and issues tickets of admission on the opening or prorogation of parliament. Some fees and perquisites belong to him. This office, conferred by Henry I. on Alberic de Vere, was inherited by female succession from the De Veres, Earls of Oxford, by the Berties, and is now held conjointly by Lady Willoughby de Eresby and the Marquis of Cholmondeley, in right of their mothers, sisters, and coheirs of Robert, fourth Duke of Lancaster. They discharge the duties alternately in each succeeding reign, a lady acting by deputy. Lord Aveland is at present deputy great chamberlain.

CHAMBER MUSIC: music specially fitted for performance in a room, as distinguished from concert or church music or opera. The name applies more particularly to instrumental music for a single instrument or a small combination, up to the septett or octett.

CHAMBER OF COMMERCE.

CHAMBER OF COMMERCE: a body of merchants and traders, associated for promoting the interests of its own members, of the town or district to which the society belongs, and of the community generally, so far as these are related to trade and merchandise. Prominent among methods of activity of such bodies are the following: 1. Representing and urging on the legislature the views of their members in mercantile affairs; 2. Aiding in the preparation of legislative measures having reference to trade, such, for example, as the bankrupt acts; 3. Collecting statistics bearing upon the staple trade of the district; 4. In some places, acting as a sort of court of arbitration in mercantile questions; 5. Attaining by combination advantages in trade which might be beyond the reach of individual enterprise.

These institutions are of continental origin, and, like so many others which England has borrowed from that source, were introduced first into Scotland. The oldest C. of C. in France is that of Marseille, which dates from the end of the 14th or commencement of the 15th c. This chamber was invested with very remarkable powers. It shared in the municipal jurisdiction, and in the administration of justice in mercantile questions. It was several times suppressed and re-established, and it was not till 1650 that its powers were fixed, and that it received its ultimate organization. The second chamber in France was that of Dunkerque, established 1700. The same year a council-general of commerce was instituted at Paris, which, in addition to six councilors of state, consisted of 12 merchants or traders, delegated by the principal commercial towns of the kingdom, an arrangement which led within the next few years to the formation of chambers of commerce everywhere in France. Thus the chamber at Lyon was instituted 1702, those of Rouen and Toulouse 1703, of Montpellier 1704, of Bordeaux 1705, etc. By an order of council 1702, Aug. 30, a direct relation was established between these various chambers and the central council of commerce. These chambers were all suppressed by a decree of the national assembly 1791, but they were re-established by a consular edict 1802, which fixed the population of the towns in which they might be established and the number of their members, who were to be chosen from among the merchants who had carried on trade in person for a period of not less than 10 years. Sixty of the best known merchants, presided over by the prefect or the maire, were charged to elect the members of these new chambers. They then presented to the government two candidates for the office of member of the general council of commerce, instituted at Paris under the minister of the interior. This organization was again modified 1832, and still later by the ordonnances of 1851, Sep., and 1852, Aug., by which these bodies are now regulated. In accordance with that decree the members of these bodies are now elected by the chief merchants of each town chosen for that purpose by the prefect; their number cannot be less than nine, nor more than 21; they hold office for six years, one-third of their number being renewed every two years, but the members resigning being re-eligible. The

CHAMBER OF COMMERCE.

functions now assigned to these chambers in France are—to give to the government advice and information on industrial and commercial subjects; to suggest the means of increasing the industry and commerce of their respective districts, or of improving commercial legislation and taxation; to suggest the execution of works requisite for the public service, or which may tend to the increase of trade or commerce such as the construction of harbors, the deepening of rivers, the formation of railways, and the like. On these and similar subjects, the advice of the chambers, when not volunteered, is demanded by the government. In most of the other countries of continental Europe there are similar institutions for the purpose of conveying information and advice to the central government, and making it acquainted with local feelings and interests in commercial matters.

The oldest C. of C. in Great Britain is believed to be that of Glasgow, instituted 1783, Jan. 1, and soon obtaining a royal charter. That of Edinburgh was instituted 1785, and incorporated by royal charter 1786. The Edinburgh C. of C. was the first public body which petitioned for the abolition of the corn laws, and the adoption of free-trade principles; and stood almost alone in the United Kingdom in advocating the Suez canal project. It also originated the movement that government should undertake the telegraph service in connection with the post-office. 600 of the bankers, merchants, and ship-owners of Edinburgh and Leith constitute the chamber. The Manchester chamber, since so famous for its exertions in the cause of free-trade, was not established till 1820, and for many years it was the only institution of the kind in England. Its members number about 400. In Hull there has been a C. of C. since 1837, but those of Liverpool, Leeds, and Bradford, notwithstanding the great trading and manufacturing interests of these towns, were not established till 1850, in which year a similar institution was established in s. Australia. The Liverpool C. of C. numbers nearly 600. The annual income of the Manchester chamber is upward of £600, that of Liverpool about £800, contributed entirely by the subscriptions of members, amounting generally to £1, 1s. a year. There are new chambers of commerce in all the great mercantile towns of Great Britain and Ireland, and in 1860 there was established an ‘Association of Chambers of Commerce of the United Kingdom.’ In Canada, there is a Dominion board of trade, which consists of the chamber of commerce, or boards of trade, as they are indifferently called, of a dozen of the most important cities of the Dominion. ‘The corporation of the chamber of commerce of the city of New York, in America,’ was organized 1768, and incorporated by royal charter 1770, Mar. 13. This was the earliest institution of the kind in the United States. The charter was renewed by the legislature when the state govt. was formed. It at first consisted of 24 leading merchants, who established an exchange which still exists, though under other control. Its objects were and are to promote commerce, maintain industry, settle disputes concerning trade, and procure necessary legislation for its security and

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advancement. A court of arbitration has been framed to adjust differences between members; much litigation has been thus avoided. The present membership, abt. 800, includes the most prominent business men and financiers of the city. Meetings are held monthly. The rooms contain a very extensive collection of statistics. Similar bodies are found in most of the larger cities of the United States.

CHAMBERS, *chām'bérz*, EPHRAIM: compiler of the first English encyclopedia: born at Kendal, latter part of the 17th c.; and while an apprentice to a globe-maker in London, conceived the idea of his encyclopedia. The first edition, 2 vols., folio, appeared 1728; ten years later, the 2d appeared; and in the year following, the 3d. The 4th ed. was issued 1741, a year after the editor's death. A 5th appeared 1746, and a 6th, with new matter, 1750. This work forms the basis of Dr. Rees's Cyclopaedia in 45 quarto vols., and may be considered the forerunner of the now countless publications of an encyclopedic character (see ENCYCLOPEDIA).

CHAMBERS, WILLIAM and ROBERT; editors and publishers of *Chambers's Encyclopædia* and other works: brothers; born at Peebles, Scotland.

CHAMBERS, WILLIAM, L.L.D.: 1800–1883, May 26. Bearing up against the difficulties of his early life, he began business as a book-seller in Edinburgh, 1819; afterward adding printing to his business. Between 1825 and '30, he wrote the *Book of Scotland*; and, in conjunction with his brother, the *Gazetteer of Scotland*.

CHAMBERS, ROBERT, L.L.D.: 1802–1871, Mar. 17. Like his brother William, he became a book-seller in Edinburgh, and 1823–30 wrote the *Traditions of Edinburgh*, 2 vols.; *Popular Rhymes of Scotland*, 1 vol.; *Picture of Scotland*, 2 vols.; and *Histories of Rebellions in Scotland, and Life of James I.*, 5 vols. Next, he edited *Scottish Ballads and Songs*, 3 vols.; and *Biography of Distinguished Scotchmen*, 4 vols. His *Traditions of Edinburgh* procured him the friendship of Sir Walter Scott, who contributed various memoranda for the work. In 1844, Robert, who, from abt. 1832, had been united in business with his brother William, published anonymously the remarkable work, *Vestiges of Creation*, which prepared the way for Darwin's great work (see SPECIES). The authorship, keenly canvassed for many years, was not revealed till the publication in 1884 (after the death of both brothers) of the 12th ed. Other works by Robert are *Ancient Sea Margins* (1838); *The Lives and Works of Robert Burns* (4 vols. 1851); and the *Domestic Annals of Scotland* (3 vols. 1859–61); the *Select Writings* (7 vols.) are collected essays. The labor of preparing his last work, *The Book of Days* (2 vols. 1863), finally broke his health, and prevented further literary labor. Robert received the degree L.L.D. from St. Andrews 1863, and died at St. Andrews.

William projected *Chambers's Edinburgh Journal*, and that periodical was commenced 1832, Feb. 4, about six weeks in advance of the *Penny Magazine*, and may be con-

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sidered the pioneer of that class of cheap and popular periodicals of a wholesome kind now so generally diffused. The success of the *Journal* was materially promoted by the essays, moral and humorous, of Robert C., who from the first was an able collaborateur. United from this period (1832) in the peculiar profession of writing, editing, printing, and publishing, William and Robert C. issued a series of works designed for popular instruction, including the *Journal*, now amounting, in its different series, to 71 vols. Among these works are *Chambers's Information for the People*, 2 vols.; *Chambers's Educational Course*, 250 vols.; *Cyclopedia of English Literature*, 2 vols.; *Miscellany of Useful and Entertaining Tracts*, 20 vols.; *Papers for the People*, 12 vols.; and *Chamber's Encyclopædia*, 10 vols. In conducting these laborious undertakings, they necessarily depended on a number of accomplished literary assistants. In 1849, William acquired the estate of Glenormiston, in Peeblesshire, and a few years afterward he founded and endowed an *Institution* in his native town for social improvement (see PEEBLESSHIRE). His later productions are: *Things as they are in America*, 1 vol., the result of a visit to the United States (1853); the *Youth's Companion and Counsellor*, 1 vol.; *History of Peeblesshire* (1 vol. 8vo, 1864); pamphlets on *Improved Dwellings* and *Co-operation among the Working Classes*;

Wintering at Mentone, written from personal knowledge of the place during two visits; *France: its History and Revolutions* (1 vol. 1871); *Memoir of Robert Chambers, with Autobiographic Reminiscences*; and *Ailie Gilroy*, a story; more lately, *Stories of Remarkable Persons*; *Stories of Old Families*; and the *Story of St. Giles'* (1879). Twice elected lord provost of Edinburgh, William occupied that office 1865-69, during which he promoted several important public acts, including one for the improvement of the older part of the city. In 1872, he was made L.L.D. of Edinburgh. In the years preceding 1883, he carried out, at his own cost, a thorough restoration of the ancient church of St. Giles' in Edinburgh. In 1883, it was intimated that the queen had resolved to recognize his public services by conferring a baronetcy on him; but he died before the baronetcy had been gazetted. At his death, Robert C., eldest son of Robert C., became head of the firm, the style of which is unchanged. The firm owns an extensive printing and publishing establishment in Edinburgh, and a publishing establishment in London. The whole of the works issued by William and Robert C. aim at popular instruction, free of political or sectarian bias. Perhaps their greatest effort in these respects have been *Chambers's Encyclopædia*.

CHAMBERSBURG (N. J.): see TRENTON.

CHAMBERSBURG, *chām'bérz-bürg*: capital of Franklin co., Penn., on the Conecocheague and Falling creeks, and on the Cumberland Valley railroad., 52 m. s.w. of Harrisburg, in the s. part of a fertile limestone valley between the Blue and South Mountains. It was laid out 1764 and settled by Scotch-Irish, but made little progress till after the peace of 1783. In Early's raid Gen. McCausland en-

CHAMBERTIN—CHAMBORD.

tered C. with Confederate cavalry 1864, July 30, and demanded a tribute of \$200,000 gold: this not being paid, it was set on fire and two-thirds of the town, including the entire business part, burned, causing a loss of \$1,000,000. It was soon rebuilt, chiefly of brick or stone, and has now a good court-house, a national bank, and a private bank, ten churches, three newspapers, the Cumberland Valley railroad shops, and manufactories of wool, paper, and iron. Wilson College, a girls' school under Presb. control, founded 1870, is here. Pop. (1840) 3,239; (1870) 6,308; (1880) 6,887; (1890) 7,863; (1900) 8,864.

CHAMBERTIN, *shōng-bēr-tāng'*: vineyard of abt. 60 acres, noted for its product of excellent wine; dept. of Côte d'Or, France; abt. 6 m. s.s.w. from Dijon.

CHAMBÉRY, *shōng-bā-rē'*: town of Savoy, of which it is the capital, beautifully situated in a rich vine-clad valley, between two ridges of hills, about 45 m. w.s.w. of Geneva. Though nearly 1,000 ft. above the sea, the climate is mild; the scenery, with the river Leysse flowing through the valley, is exceedingly fine. The town itself, however, is dull and uninteresting. Some towers and other fragments of the old castle of the Dukes of Savoy, which dates from the 13th c., remain. C. has manufactures of silk-gauze, soap, leather, hats, lace, and trade in silk, wine, etc. From the middle of the 16th c. to the peace of Utrecht, 1713, C. was under the dominion of France; and again from the Revolution to the congress of Vienna, 1815, when it was restored to the house of Savoy; but in 1860, by the cession of Savoy, it came again under the rule of France. Pop. (1881) 18,157; (1886) 19,664; (1896) 21,762.

CHAMBORD, *shōng-bor'*: celebrated royal castle of France, dept. of Loir-et-Cher; in the midst of a vast walled park 21 m. in circumference, about 12 m. e. of Blois. Its foundation was laid 1526, by Francis I., who employed 1,800 men constantly in its erection until his death. The work was continued with less zeal by his successors, Henri II., Henri III., Charles IX.; and Louis XIV. and Louis XV. also made some additions to it. The building, which marks the transition between the fortified castle and Italian palace, is surmounted by a vast number of turrets, minarets, and cones, its most prominent features, however, being six enormous round towers, each 60 ft. in diameter. The double spiral staircase in the central tower is of great architectural interest, being so contrived that parties pass up and down without meeting each other. The castle has no less than 440 chambers. C. was the scene of the gallantries of Francis I. Here Henri II., Louis XIII., and Louis XIV. resided; and at one of the brilliant fêtes given at the castle by the latter, Molière performed, for the first time, his play of the *Bourgeois Gentilhomme*. Among other occupants of C. were Marshal Saxe, Stanislaus, King of Poland, and Marshal Berthier, upon whom it was bestowed by Napoleon I. It was bought from Berthier's widow by a number of Legitimists, and presented to the Duc de Bourdeau, who is hence called Comte de C. (q.v.).

CHAMBORD—CHAMBRE ARDENTE.

CHAMBORD, *shöng-bor'* (HENRI CHARLES FERDINAND MARIE DIEUDONNÉ D'ARTOIS, DUC DE BORDEAUX), Comte de: representative of the elder branch of the House of Bourbon, and of its claims to the French throne: 1820, Sep. 29—1883, Aug. 24; b. Paris; grandson of Charles X., and son of the Duke of Berri who was murdered by Louvel, 1820, Feb. 14. The Duke of Angoulême, Charles X.'s eldest son, being childless, the Duke of Berri was heir-presumptive; and as, at his death, he left only a daughter, the joy was great when, seven months afterward, his widow gave birth to a prince, who received the title of Duke of Bordeaux—that of Comte de C., by which he was most usually known, being derived from the Castle of C. (q.v.), presented to him at his baptism. He was baptized amid circumstances of great pomp with water brought by M. de Châteaubriand from the river Jordan, and received the appellation of *l'Enfant du Miracle* ('the miraculous child'). When Charles X. abdicated the crown at the revolution 1830, he did so in favor of the grandson, the Duke of Bordeaux. The people, however, insisted on the 'citizen king,' and the elder Bourbons were banished. On the death of Charles X., the Duke of Angoulême assumed the title Louis XIX., and another party proclaimed the Duke of Bordeaux king; but at last a reconciliation was brought about by Prince Metternich. In 1839, the prince visited Italy, accompanied by his mother. After the death of the Duke of Angoulême, 1844, the heads of the different factions of Legitimists met to pay their united homage to C. In 1846, he married the eldest daughter of the Duke of Modena. It was not till after the fall of the empire, 1870, that an opportunity for the Legitimists seemed to have come. After the capitulation of Paris, 1871, the Count of C. returned to France, and, under the title of Henry V., issued a proclamation, in which he promised, if placed by the nation at the head of its affairs, to maintain the temporal power of the pope. From that time till his death he was perpetually issuing manifestoes and emitting declarations from his mimic court at Frohsdorf, in Lower Austria. These all were characterized by the same impracticable idealism and devotion to family principles; and, in 1873, he threw away a fair chance of returning to France as king, by his obstinate determination to cling to the white flag as against the tricolor. In 1873, took place the long-aimed-at 'fusion' of Orleanists and Legitimists, by which the Comte de Paris was recognized as head of the French Bourbons next to the childless C. C. died at Frohsdorf.

CHAMBRE ARDENTE, *shöng-brar-dångt* ['the fiery chamber']: name given in France at different times to an extraordinary court of justice, probably on account of the severity of the punishments which it awarded, the most common being that of death by fire. In the year 1535, Francis I. established an inquisitorial tribunal, and a chambre ardente. Both were intended for the extirpation of heresy. The former, of which the pope was a corresponding member, searched out, by means of spies, cases of heresy, and instructed the processes; while the latter

CHAMBRE INTROUVABLE.

both pronounced and executed the final judgment. Under Henri II., the activity of the C. A. received a new impulse, the entrance of that monarch into Paris, 1543, July 4, being signalized by the burning of several heretics. But Francis himself, gallant and gay as courtly history represents him, also seemed to relish a spectacle of this kind, for on various occasions he and his mistress presided at a burning. By and by, the C. A. relaxed in its penalties, and a cry was raised among some of the more bigoted Rom. Catholics that it was conniving at heresy. To clear themselves of this reproach its members commenced a series of unheard-of cruelties, which with other events contributed to originate the religious war of 1560. In 1679, Louis XIV. employed it for a new purpose—viz., to investigate the numerous reports of poisoning cases to which the trial of the Marchioness Brinvilliers (q.v.) gave rise. Many persons of the first rank, such as the Maréchal de Luxembourg and the Princess Louise of Savoy, were examined on suspicion, but no one was executed except the pretended sorcerer, Voisin (1680), after which time the C. A. ended its activity.

CHAMBRE INTROUVABLE, *shōng-bring-trō-va-bl* [F., unfindable chamber; i.e., the chamber the like of which is not to be found again]: name sarcastically given to that chamber of deputies in France which met after the second return of Louis XVIII. (1815, July), and which, by its fanatical royalty, began to throw the country and society anew into commotion. The former chamber, which had shown much moderation, had been dissolved under the influence of the court party; and the ministry, led by Talleyrand, had done everything to procure for the ruling party at least a manageable chamber adapted for business. The number of the deputies was arbitrarily raised from 259 to 392; and to secure the victory of a complete restoration, all rushed forward who saw in the constitutional charter an encroachment on their privileges and pretensions. When it is considered, in addition, that the elections, at least in the departments of the south, took place under terror and the sanguinary outrages of a populace in a state of political and religious excitement, that the press was stifled, and the people deprived of all freedom of expression by the foreign armies, ultra-royalism could not fail to be completely triumphant. When the ministers saw this startling result, they did not venture to open the session; they resigned, and gave place to the Richelieu ministry. Then broke out the most frightful excesses in the southern provinces. At the elections in Nîmes, Aug. 22, more than 100 persons were killed by the royalist bands. At last, Oct. 7, the king opened the chamber, on which he enjoined quietness and moderation; and it appeared to take this advice to heart for an instant. But when, in one of the first sittings, Boyer d'Argenson asked for the intervention of the chamber in behalf of the Protestants, who were being slaughtered in the south by the ultra-royalist bands, the speaker was called to order, and the chamber from that time ceased to observe any bounds or moderation. The fanatical legislation of this chamber inspired the ministers,

CHAMBREL—CHAMELEON.

the king, and especially the emperor Alexander, with so much aversion and apprehension, and also met such decided disapprobation of all peaceful and sincere friends of the throne, that the news of its dissolution, 1816, Apr. 5, was received with universal rejoicing. The electoral law of 1817, Feb. 5, prevented the return of a similar chamber; and only by the modified electoral law of 1820 did ultra-royalism regain a predominating influence in parliament. It is said that Louis XVIII. first used the *Chambre Introuvable* in an ironical sense, and that the majority of the chamber took it seriously as a compliment.

CHAMBREL, n. *shām'brēl*: the joint or bending at the middle of a horse's hind leg; the gambrel.

CHAMELEON, n. *kā-mē'li-ōn* [L. *chamæleon*; Gr. *chamailēōn*, ground-lion—from *chamai*, on the ground; *lēōn*, a lion]: an animal of the lizard kind that can change the color of its skin. **CHAMELEON MINERAL**, in *chem.*, manganate of potass, from the changes in color which its solution undergoes by oxidation.

CHAMELEON, *ka-mē'le-on* (*Chamæleo*): genus of saurian reptiles, constituting a distinct family, of very peculiar form and structure, and on various accounts highly interesting. The body is much compressed; the dorsal line sharp, in some of the species rising into an elevated crest; the back of the head also is elevated into a sort of cone. The neck is very short, and does not admit of the head being turned, for which, however, compensation is found in the remarkable powers of motion possessed by the large prominent eyes, which move independently of one another, and are covered with a membrane pierced only with a small hole for the pupil to look through. There are no external ears. The skin is not covered with scales, but, like sha-



Chameleon.

green, rough with granules. The legs raise the body rather higher than in most of the saurians; the toes, both of the fore and hind feet, are divided into two sets, one directed forward, and the other backward, so that each foot has the power of grasping like a hand. The tail is long and prehensile. The lungs are very large, and are connected with

CHAMELEON—CHAMFORT.

air-cells that lie among the muscles and beneath the skin, so that the animal has a remarkable power of inflating itself with air. The tongue is remarkably extensile, and is the organ by which the animal seizes the insects which constitute its food, being darted at them with unerring aim, while a viscous saliva causes them to adhere to it, and they are carried with it into the mouth. Chameleons are slow in their movements, except those of the eyes and tongue; and they remain long fixed in one spot, awaiting the approach of insects, which they seize on their coming within reach. They all live among the branches of trees. Their power of fasting is great, and with their gulping of air in respiration, and their habit of inflating themselves with air, give rise to the fable, current among the ancients and until recent times, of their living on air. Their celebrated power of changing color is not equally fabulous, and it might be rash in the present state of knowledge on the subject to assert how far it has been exaggerated. It is probably in part under the control of volition, and may be used, as has been asserted, to render the animal less noticeable, by assimilating it to the color of surrounding objects; it may depend in part on the action of light; it is certainly connected with the fear and other passions of the creature. Milne Edwards has discovered that it depends upon the presence of two differently-colored layers of pigment in the skin, generally yellow and blue.

Chameleons are natives of the warm parts of the old world, but are more abundant in Africa. One species is found in some parts of the s. of Europe, e.g. near Cadiz. The whole number of known species is about 50. When brought to more northern countries they soon die.

The fables which, in former times, were current regarding the C. were numerous and ridiculous. It supplied not a few of those medicines to which absurd credulity ascribed most marvellous powers.

CHAME'LEON: a southern constellation within the antarctic polar circle; containing nine stars.

CHAMFER, n. *cham'fer* [Port. *chanfrar*, to slope, to hollow: F. *chamfrain*, or *chanfrein*, the slope of a bevelled angle]: a small gutter or channel; a bevel or slope: V. to hollow out in channels; to flute as a column; to cut a furrow in; to slope; to wrinkle. **CHAM'FERING**, imp. **CHAM'FERED**, pp. *fērd*.—In *architecture*, an angle which is slightly pared off, is said to be chamfered. The chamfer is sometimes made slightly concave, in which case it is called a *hollow* chamfer. Chamfers, in Gothic architecture, have frequently ornamental terminations of various kinds. The term C. is applied to wood-work as well as stone.

CHAMFORT, *shōng-for'*, SÉBASTIEN ROCH-NICOLAS: 1741-94; b. near Clermont, in Auvergne. The child of shame and with no name but Nicolas (all the rest was assumed), he procured admission to the Collège des Grassins, at Paris, and after distinguishing himself there sought in vain to live by literature, wrote sermons at a louis each for priests who could not write their own, gained the first of

CHAMFRON—CHAMISSO.

three academy prizes, and became a social lion. He was a typical Bohemian, brilliant but reckless and unstable, a dinner-out and a cynical wit, the best talker of his time and a very poor writer. He was the guest of Mme. Helvetius and the sec. of the Prince de Condé; a tragedy of his was played before Louis XVI., who doubled the pension relinquished to him by Chabanon. He married a lady older than himself, an attendant on the Duchesse de Maine; she lived but six months. After haunting the court, he followed Mirabeau into the Revolution, assisted in storming the Bastille, and died of injuries inflicted by his own hand on the prospect of a second imprisonment. His complete works appeared at Paris, five vols., 1824–25, and a selection in one vol., 1852. His *Maximes et Pensées*—a class of writing requiring no long rhetorical treatment—stand next to those of La Rochefoucauld. Some of his *mots*, as the definition of the *Tiers-État*, are almost of historical importance.

CHAMFRON, n. *chām'frōn*, or **CHAM'FRAIN**, -n. *-frān* [F. *chanfrein*, armor for a horse's head]: the front piece of a horse's head-armor, usually having a boss or spike ornament between the eyes.

CHAM'IER, **FREDERIC**: 1796–1870, Nov. 1; b. London: novelist. He entered the navy as a midshipman 1809, and distinguished himself in the war with the United States. He left the service 1833. The success of Marryat in depicting sea-life led C. to try the same field, in which he was not without success, though in invention and humor he falls short of his model. His best romances are: *Life of a Sailor* (3 vols., Lond. 1834); *Ben Brace* (3 vols., Lond. 1835); *The Arethusa* (3 vols., Lond. 1836); *Trevor Hastings* (3 vols., 1841); *Passion and Principle* (3 vols., 1843); *Tom Bowline* (3 vols., 1839); *Jack Adams* (3 vols., 1838), etc. All his novels have been translated into German. C. wrote a *Review of the French Revolution of 1848* (Lond. 1849), in which he gives a prejudiced view of some prominent characters.

CHAMISSO, *shā-mis'o*, or *shā-me-so'*, **ADELBERT VON**: 1781–1838; b. at the castle of Boncourt, Champagne; celebrated German lyric poet. His parents settled in Prussia in 1790, and he became a page of the queen, and entered upon a military career. But when the campaign of 1806 broke out, he returned to France, for, though no admirer of Napoleon, he was unwilling to fight against his native land. At this time, he was thrown into the circle of Madame de Staël at Coppet. In 1814, C. accompanied as naturalist a Russian exploring expedition around the world. Subsequently he obtained a situation in the botanical garden of Berlin, was made a member of the Acad. of Science; and after a happy domestic life, died there, universally loved and honored. He wrote several works on natural history, but his fame rests chiefly on his poetical productions. As early as 1804–06, he, together with Varnhagen von Ense, published a *Musen Almanach*. In 1813, he wrote his original and amusing fiction called *Peter Schlemihl*, the story of the man who loses his shadow, which has been translated into almost all the languages of Europe. The character of his

CHAMLET—CHAMOIS.

poetry is wild and gloomy, and he is fond of rugged and horrible subjects. In his political songs he succeeds well in humor and irony, and he is not deficient in deep and genuine feeling. Several of his ballads and romanees are master-pieces in their way. One of his longest poems, *Salas y Gomez*, written in terza rima, shows how peculiarly German the cast of C.'s mind was, notwithstanding his French origin. His collected works, 6 vols., appeared at Leipsic, 1836-39.

CHAMLET, n. *chām'lēt*: same as CAMLET.

CHAMOIS, n. *shām'mī* [F. *chamois*; It. *camoscio*], (*Antelope rupicapra*, Ger. *Gemse*): species of antelope (q.v.) inhabiting the Alps and other high mountains of central and s. Europe, as the Pyrenees, the Carpathians, and the mountains of Greece; also those of some of the Mediterranean



Chamois.

islands, Caucasus, Taurus, and other mountains of the w. of Asia. It is one of the antelopes sometimes designated *caprifom* or goatlike, because of their departure from the typical or true antelope form, and approach to that of the goats. The C. is about the size of a large goat, but the neck is longer in proportion, and the body shorter; the horns seldom more than six or seven inches long, black, rising nearly straight up from the forehead, and so bent back at the tip as to form a hook. The color is brown, deeper in winter than in summer; the tail is black; the head is of a pale-yellow color, with a dark-brown band along each cheek.

The usual summer resort of the C. is in the higher regions of the mountains, not far from the snow-line, and it is often seen lying on the snow. In winter it descends to the higher forests. The aromatic and bitter plants of the mountain-pastures are its favorite food. It is—like the ruminants generally—very fond of salt; ‘and many stones are met with in the Alps, hollowed out by the continual licking of the C., on account of the saltpetre with which they abound.’ It is gregarious: flocks of a hundred are sometimes seen; but in the Swiss Alps, where the numbers

CHAMOMILE.

have been much reduced by hunting, the flocks are generally very small, often of only a few individuals. Old males often live solitarily. The C. produces one or two young at a birth, in March or April.

It is an animal of extraordinary agility, and flocks may often be observed sporting in a remarkable manner among the rocky heights. It can leap over ravines of 16 to 18 ft. wide; a wall of 14 ft. high presents no obstacle to it; and it passes readily up or down precipices which almost no other quadruped could attempt. It is said to descend obliquely almost perpendicular precipices of more than 20 ft., striking its feet once or twice against the rock, as if to stay and guide its descent, and alighting securely, often on a very narrow ridge of rock, with its hind feet first, and bringing the fore feet almost into contact with them.

The hunting of the C. is an occupation attended with great hardships and much danger, but of which, nevertheless, some of the Swiss peasants become passionately fond. The hunter sometimes goes out on the adventurous chase alone; but more frequently several go out together, dividing into parties; and while the flock of C. flee from those whose approach they first descry, an opportunity of using the rifle is obtained by their comrades. The scent of the C. is extremely keen; and when by this sense it is apprised of the approach of the hunter, it becomes alarmed and restless until it sees him, upon which it rushes hastily in an opposite direction, and so falls into the ambuscade. When a flock of C. is feeding, one is always on the watch, and by a sort of whistle, announces apprehended danger.—The flesh of the C. is highly esteemed. Its skin is made into leather, and from it the original *chamois*, or *shammoy*, or *shammy* leather, prized for softness and warmth, was obtained, although the name has now become common to leather prepared from the skins of other animals: see LEATHER.—When taken young the C. is easily tamed.—The C. of the Persian mountains is smaller and of a paler color than the European variety, and its horns bend from the base.

CHAMOMILE (preferable spelling CAMOMILE), n. *kăm'ō-mil* [Gr. *chamai*, on the ground; *melon*, an apple—so called from the smell of its flowers], (*Anthemis*): genus of plants of the nat. ord. *Composite*, sub-order *Corymbiferae*, distinguished by imbricated bracts, a scaly conical receptacle, a ray of one row of female florets, those of the disk hermaphrodite, the achænia obscurely four-cornered, and destitute of pappus. The species are annual and perennial herbaceous plants, natives chiefly of Europe and other temperate parts of the world. The COMMON C. (*A. nobilis*) is the most important species of the genus, well-known for its medicinal virtues; a perennial plant with a stem about a foot long, procumbent and much branched, each branch terminated by a flower (head of flowers) more than an inch broad, with yellow disk and white ray, the whole plant intensely bitter and highly aromatic. Its medicinal virtues are ascribed to the essential oil which it contains, *Oil of Chamomile*, which abounds most in the involucre. This oil is of greenish-yellow color, and is used in the preparation of some medicines.

CHAMOMILE.

The dried flowers are often administered in the form of an infusion, as a stimulant of the nerves of the abdomen, an alterative and antispasmodic; or are applied to the skin as an anodyne, and on account of their power of promoting absorption and suppuration. The infusion also acts as an emetic, and is often used to assist the action of other emetics.



Chamomile (*Anthemis nobilis*).

C. flowers find a place in the pharmacopœia, and are also among the most esteemed domestic medicines, the plant being extensively cultivated for their sake. Yet they should be used with caution, as they have been known to produce congestion in the brain, and are very apt to aggravate any existing malady of this kind. A double-flowering variety of C. is more generally cultivated than the single, to supply the C. flowers of the shops, the flowers being whiter and more bulky, but it is otherwise rather inferior. C. is easily propagated by parting the roots. It delights in a dry and rather poor soil.—The name WILD C. is given to a very similar plant (*Matricaria Chamomilla*), an annual belonging to a genus closely allied to *Anthemis*. It may readily be distinguished by the want of scales on the receptacle. Its medicinal virtues resemble those of common C.; it is in some parts of Europe preferred for internal use, because it is less bitter, less nauseous, and generally milder in operation.—No small quantity of common C. is illegally used in the manufacture of beer in England, and is imported from Germany for this purpose. Yet this plant is so abundant in some parts of the s. of England as to form a principal part of the pasture in sheep-walks, and to fill the whole air with its scent. The other British species of C. (*Anthemis*) are mere weeds; one of them called stinking C. (*A. Cotula*), is so acrid as to blister the fingers, if much handled. But

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the flowers of the Ox-EYE C., or DYER'S C. (*A. tinctoria*), a native of many parts of the continent of Europe, yield a beautiful yellow dye, on account of which the plant is often cultivated.

CHAMOND, *shá-móng'*, ST.: town of France, dept. of Loire, at the confluence of the Gier and the Ban, about seven m. n.e. of St. Etienne, on the railway between that place and Lyon. It is a flourishing well-built town, with extensive manufactures of ribbons and stay-laces. C. has also several silk-mills and numerous iron furnaces and foundries; and extensive coal-mines are in the vicinity. Pop. (1891) 14,383.

CHAMORERIL, or CHUMOREREEL, *chúm-o-ré-ré'l*: lake of-Ladakh or Middle Tibet, lat. $32^{\circ} 55' n.$, long. $78^{\circ} 15' e.$ It is 15,000 ft. above the sea, on the plateau between the upper waters of the Sutlej and of the Indus, girt by mountains which rise, at some points, 5,000 ft. above its own level. Though it is beyond the recognized limits of perpetual congelation, yet it freezes only in winter; and is hence supposed to be of great depth. Necessarily receiving much water from the surrounding mountains, it is without any visible outlet—evaporation alone, even at this elevation, appearing to maintain one uniform surface on a length of 15 m., and a width of $2\frac{1}{2}$ miles.

CHAMOUNI, or CHAMONIX, *shá-mó-né'* (Lat. *Campus munitus*): wild and romantic valley and village among the Alps in Savoy. It lies at a distance from all the high roads, about 3,400 ft. above the level of the sea, and more than 2,000 ft. above that of the Lake of Geneva. The valley is about 13 m. long, and about two broad, and is traversed by the Arve. It is bounded at the e. end by the Col de Balme, over which there is a mule-path to Martigny, in the upper valley of the Rhone, and from the other end issues the road to Geneva, which town is $53\frac{1}{2}$ m. from Chamouni. On the n. side lies Mont Breven and the chain of the Aiguilles Rouges, and on the s., the giant group of Mont Blanc, from which enormous glaciers or rivers of ice slide down, even in summer, almost to the bottom of the valley. The chief of these glaciers are—the Glacier des Bossoms, des Bois, d'Argentière, and du Tour. Ascent to a point called Montanvert brings the traveller upon the upper course of a glacier, where it expands into a great mountain-lake of ice called the Mer de Glace, in which there is an island rock or oasis called Le Jardin, about seven acres in extent, covered with most beautiful herbage. The excursion to the Jardin is one of the most striking excursions within the range of Chamouni. Until 1741, the valley was almost unknown; the region was considered a wilderness, and known by the name of Les Montagnes Maudites, or 'accursed mountains.' In the above year, it was visited by two Englishmen, Pocock and Wyndham, who ascended as far as Montanvert; and a granite block there still bears the name of the Englishmen's Stone. It 1775 the attention of travellers was effectually called to it by Saussure and Bourrit. The valley is rich in peculiar plants, and furnishes an aromatic and perfectly

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white honey.—The village of C. owes its origin to the Benedictine convent founded between 1088 and 1099. The people get their support partly from the strangers who visit the valley, and partly from the pastures and from hunting. There are several good hotels, and the best guides are to be found here for the neighboring Alps. It is from C. that Mont Blanc is usually ascended. Pop. of village about 1,000.

CHAMP, v. *champ* [OF. *champayer*, to feed, to graze; Icel. *kampa*, to chew—from *kiammi*, a jaw]: to bite with repeated action of the teeth so as to be heard, as a horse on the bit; to eat noisily; to chew; to devour; to bite frequently. **CHAMPING**, imp. **CHAMPED**, pp. *champé*. **CHAM'PER**, n. one who.

CHAMPAC, or **CHAMPAK**, *chám'pak* (*Michelia Champaca*): Indian tree, possessing great beauty both of foliage and flowers, and much venerated both by Brahmanists and Buddhists. Images of Buddha are made of its wood. Its flowers have a pale-yellow tint, and a sweet oppressive perfume, celebrated in Hindu poetry.

CHAMPAGNE, *shóng-pán'*: formerly province of France, now forming the depts. of Seine-et-Marne, Aube, Yonne, Haute-Saone, and Ardennes. The province was about 180 m. long by 150 broad, its surface presenting extensive plains with ranges of hills, especially in the n. and e. Upon these hills is grown the famous C. wine: see **CHAMPAGNE**.

In ancient times, C. was known as a part of Gallia, was subjugated by Cæsar, and afterward was annexed to the kingdom established by the Franks. After the 11th c., it had its own dukes, vassals of the French kings. By the marriage of Philippe IV. with Joanna, heiress to the kingdom of Navarre, Champagne, and Brie, C., in 1284, came to the French crown, and was incorporated by Philippe VI. 1328. During the campaign of 1792, the e. part, and, in the campaign of 1814, the w. part, of C. was the chief arena of warfare.

CHAMPAGNE, n. *shám-pán'* [F.]: a wine, the produce of vineyards in the province of Champagne (q.v.). There are white and red Champagnes; the white is either sparkling or still. Sparkling or effervescent (*mousseux*) C. is the result of a peculiar treatment during fermentation. In Dec., the wine is racked off, and fined with isinglass, and in March it is bottled and tightly corked. The fermentation being incomplete when the wine is bottled, the carbonic acid gas generated in a confined space dissolves in the wine, and communicates the sparkling property to champagne. To clear the wine of sediment, the bottles are first placed in a sloping position with the necks downward, so that the sediment may be deposited in the necks of the bottles. When this sediment has been poured off, some portion of a *liqueur* (a solution of sugar-candy in eognæ) is added to the wine, and every bottle is filled up with bright clarified wine, and securely recorked. The effervescence of the wine thus prepared bursts many bottles, in some cases ten per cent.; and in seasons of early and sudden heat, as many as 20 and

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25 per cent. have been burst. Wine-buyers estimate the value of wine according to the breakage, that which breaks the most bottles being considered best. Still or non-effervescent C. is first racked off in the March after the vintage. Creaming or effervescent C. (*demi-mousseux*) has more alcohol, but less carbonic acid gas than sparkling champagne.

The best varieties of this wine are produced at Rheims and Epernay, and generally on a chalky soil. Among white champagnes of the first class, the best are those of Sillery, of fine amber hue, dry spirituous, and possessing a superior *bouquet*; those of Ay and Mareuil are less spirituous, but are sparkling, with a pleasant bouquet. Other white wines of first class are those of Hautvilliers, Dizy, Epernay, and Pierry.

In the first class of red C., or Montagne, are the varieties of Verzy, Verzenay, Mailly, St. Basle, Bouzy, and Thierry; all having fine color, clearness, good body, sufficient spirit, and a pleasant *bouquet*. The trade in C. wines is chiefly in Rheims, Avise, Epernay, and Chalons-sur-Marne. The cellars in which the vintages are stored are cut out of the calcareous rock. The fact that the sale of C. is very extensive and lucrative has given rise to adulterations. Sugar, and the juices of pears or gooseberries, or birch-juice, etc., have been used for making spurious champagne. It may fairly be reckoned that not even a third part of the wine sold for C. in Paris is genuine. The greater part of it is readily manufactured by simply charging other light wines with carbonic acid gas. Recently the German purveyors have succeeded in preparing light wines—such as Rhenish, Main, Neckar, Meissner, and Naumburg—so much like genuine C. as to deceive even the connoisseur. Altogether, it is estimated that the district produces 1,100,000 hectolitres (24,200,000 gallons) of genuine C., of which, however, the finest growths make but a small part.

CHAMPAGNE, *shōng-pāñ'*, or CHAMPAIGN, *shōng-pāñ*, PHILIPPE DE: 1602–1674, Aug. 12: b. Brussels: painter. He was of humble origin, studied under Fouquier, and went 1621 to Paris, where he painted in the Luxembourg palace with Poussin. He became first painter to the queen, and afterward rector of the Acad. at Paris. Finally he retired to Port Royal; his portrait of his daughter, a nun there, is notable. Of his very numerous paintings the best are at Vincennes, excepting his *Crucifix*, remarkable for its perspective, on one of the vaultings of the Church of the Carmelites at Paris. His talent was of a sober, religious, and realistic cast.

CHAMPAIGN, n. *shām'pāñ* [OF. *champagne*; F. *campagne*, plain, open country — from mid. L. *campāniā*, a plain—from L. *campus*, a plain]: a flat, open country: ADJ. level; open.

CHAMPAIGN, *shām-pāñ'*: city of Champaign co., Ill., 128 m. s.s.w. of Chicago by the Chicago div. of the Central railroad, and 48 m. e.s.e. of Bloomington by the Indianapolis Bloomington and Western, which is here joined by its Havana extension. It is in a well cultivated farming region,

CHAMPÁRAN—CHAMP DE MARS.

and connected by street cars with the co. town Urbana, two m. e. It has 11 churches; the Illinois Univ. (State Industrial), founded 1868; a female seminary; three newspapers; four banks; a public library, and manufactures of wagons and furniture. There is a park of ten acres. Pop. (1870) 4,625; (1880) 5,103; (1890) 5,839; (1900) 9,098.

CHAMPARAN, or CHUMPARAN, *chūm-pa-rūn'*: district in the Behar province of India, in the jurisdiction of the lieut.govt. of Bengal; lat. 26°–28° n., long. 84°–86° e. It is separated from Nepál on the n by an embankment or by streams. Except in the n. and n.w., the region is level, well cultivated, and watered by numerous rivers and lakes. Of its area, 3,531 sq. m., 2,350 are farmed, and 433 used for grazing. Rice, Indian-corn, barley, sugar-cane, opium, and indigo are produced, and gold, copper, and limestone extracted. Indigo, saltpetre, and rope are the only manufactures. The British acquired C., 1765; it was a division of Sáran till 1866. The revenue in 1870 was £82,159, of which 63 per cent. was from the land. In 1872 there were 78 schools under govt. inspection, with 1,222 pupils. The only towns of over 6,000 pop., are Bettiah, 19,708, and Motihari, the headquarters, 8,266. Pop. of C. (1891) 1,500,000, in 2,299 villages, and 242,228 houses; 86 per cent. are Hindus, and nearly all the rest Mohammedans.

CHAMPARTY or CHAMPARTIE, n. *shām'pár-tī*, also CHAMPERTY [F. *champart*, a field-rent—from *champ*, a field; *part*, part: L. *campus-partitus*, field divided]: in *OE.*, an offense which consists in a bargain between the plaintiff or defendant in a suit, and a third party, generally a lawyer, that the latter shall have part of the land, debt, or other thing sued for, in the event of success, and that in the meantime he shall carry on the suit at his own expense. This practice has been strictly forbidden by statute in England from very early times (3 Edward I., c. 25; 13 Edward I., c. 49; etc.); and in Scotland, the rule of the civil law by which the *pactum de quotá litis* (q.v.) was held to be a *pactum illicitum* (q.v.), and as such void, has all along been part of the common law. In former times, the evil chiefly apprehended from C. probably was, that the honesty of judges might be tampered with by advocates who were generally their friends, and not unfrequently their very near relatives, if permitted to be personally interested in the issue of the causes in which they were professionally employed. At the present day, the chief danger consists in the encouragement which might thus be given to dishonest and oppressive litigation, and the facilities which would be afforded for nefarious transactions between the agents on the opposite sides. That practices closely analogous to C., though unnamed, are not unknown in the lower strata of the legal profession in all countries, is probable. The necessities of trade have introduced considerable equitable modifications into the law of C. for which see CHOSE IN ACTION: also BARRATOR.

CHAMP DE MARS, *shōng dēh márs*: oblong park or square on the outskirts of Paris, between the Seine and

CHAMPE—CHAMPION.

the *école militaire*. It is 3,280 ft. long, 1,640 ft. wide, flanked by ditches and rows of trees; has five gates, and is used for military maneuvers or displays, and for public gatherings. The name comes first from the Roman *Campus martius*; and second from the annual national assemblies, *Plactia* or *Mâls*, of the Frankish tribes, which were held at first in March, and under the Carlovingians in May—thence called Champs de Mars or Champs de Mai. In the great field near Paris were held the *fête de la federation*, 1790, July 14, and other revolutionary or political demonstrations or rejoicings, 1791, '93, '94, '96, 1815, '27, '48, and '52, besides the universal exposition of 1867. See PARIS.

CHAMPE, *champ*, JOHN: 1752—abt. 1798; b. Loudon co., Va. He was a sergeant-major in Lee's regt., and was chosen at Washington's request to undertake the desperate enterprise of capturing Arnold after André's execution, 1780, Sep. He passed the American lines, being pursued as a deserter, reached New York, was examined by Sir H. Clinton, and given in charge to Arnold, with whom he remained, perfecting his plans; the scheme was foiled by Arnold's changing his quarters on the day designed for his abduction. C. escaped to the patriot army, and was discharged by Washington, as the British would have hanged him as a spy had he fallen into their hands. He died in Kentucky.

CHAMPIGNON, n. *shām-pīn-yōng'* [F. *champignon*—from mid. L. *campiōnem*, that which grows in the fields—from L. *campus*, a field]: an edible mushroom; the small mushroom of the fairy rings; the *Agaricus oreūdēs*, ord. *Fungi*.

CHAMPION, n. *chām'pi-ōn* [OF. *champion*, a champion—from mid. L. *campiōnem*, a champion—from L. *campus*, a field of battle: Icel. *kapp*, contention; W. *camp*, a feat: Sp. *campeón*, a champion—from *campear*, to excel: Ger. *kämpfen*, to fight]: a man who undertakes to defend the cause of another in combat or otherwise; one who is bold or successful in a contest or some particular pursuit, as a champion swimmer; a hero. **CHAMPIONSHIP**, n. state of being a champion.

CHAMPION, *chām'pi-on*: a combatant representing and defending another's cause. In the judicial combats of the middle ages it was allowed to women, children, and aged persons, except in cases of high treason or of parricide, to appear in the lists by a representative. Such a hired combatant was called a champion. Those who followed this profession were generally of the lowest class, and were held disreputable; for besides the perils of the combat, they were liable to be executed as well as their clients. They were obliged to wear a peculiar dress of leather, and peculiar armor, which was also held disreputable. They were not allowed to fight on horseback, and appeared in the lists with their hair and nails cut short. Champions are mentioned as early as in the time of Charlemagne; and Otto I. employed them in deciding the succession to the empire. At a later period, in the age of chival-

CHAMPION HILLS—CHAMPLAIN.

ry, the word C. came to have a more dignified acceptation, and signified a knight who entered the lists on behalf of an injured lady, of a child, or of any one incapable of self-defense. In England the crown even had its C., who, mounted on horseback and armed to the teeth, challenged, at every coronation at Westminster, all who should deny the king to be the lawful sovereign of the three realms. This practice is understood to have been introduced under Richard II., and it continues as part of the ceremonial of an English coronation to this day.

CHAMPION HILLS, BATTLE OF: 1863, May 16, in Hinds co., Miss., 25 m. e. of Vicksburg. Gen. Grant's troops, marching from Fort Jackson, Miss., to Vicksburg, were attacked nearly midway between the two by a Confederate force under Gen. Pemberton, which, after five hours' fighting, retreated with heavy loss. On the Union side Logan's and Crocker's divisions of McPherson's corps, and Hovey's div. of McClelland's, chiefly were engaged; the former suffered much loss. This action is sometimes called that of Baker's Creek.

CHAMPLAIN, *shām-plān'*, LAKE: between N. Y. and Vt., extending from Whitehall, N. Y., to St. John's, Canada. It is 100 m. long, from 54 to 600 ft. deep, and navigable the whole distance during the time from Apr. to Nov. The s. half is narrow, in places hardly 700 ft. wide; further n. it has a breadth of 10 to 15 m., and contains more than 50 islands, of which the chief, South Hero, 13 by 4 m., North Hero, 11 by 2, and La Motte, 6 by 2, with others, form Grand Isle co., Vt. The lake is fed by Wood creek, conveying the waters of Lake George, the Ausable, and Saranac rivers in N. Y., and several smaller streams; its outlet is the Richelieu, L'ovel, or St. John's river which empty into the St. Lawrence, and with the Chamblcy canal can be traversed by vessels of any size. The Champlain canal connects Lake C. with the Hudson. The chief towns on its banks are Burlington, Vt., and Plattsburg, N. Y. The Green Mountains on the e. and the Adirondacks on the w. are in view in the n. part, and supply beautiful scenery. The N. Y. and Canada div. of the Delaware and Hudson Canal Co.'s railroad passes along its w. bank. The lake was named from Samuel de Champlain, who discovered it 1609. On its waters Arnold's flotilla was defeated by the British 1776, Oct. 11. 1814, Sep. 11, an American navy of 14 vessels, 86 guns, and about 850 men, under Capt. Macdonough, defeated a British squadron of 16 vessels, 95 guns, and 1,000 men, under Capt. Downie, in the harbor of Plattsburg. The *Confiance*, the largest British vessel, struck her flag to the *Saratoga* after two and a half hours' fighting, and then the *Linnet*. The *Chubb* surrendered to the *Ticonderoga* and the *Finch* was taken; the 12 remaining gunboats lowered their flags and then escaped. The Americans lost 112 killed and wounded, the British nearly 200, besides many prisoners and 75 guns. The victory was due to Macdonough's precaution in throwing out kedges from the bows of the *Saratoga*, so that she could be turned when one broadside was

CHAMPLAIN—CHAMPOLLION.

disabled. The British army under Prevost attempted to support their navy, but lost its way in fording the Saranac river and arrived too late.

CHAMPLAIN, *shām-plān'*, Fr. *shōng-plāng'*, SAMUEL DE: 1567–1635: French Canadian pioneer. He was a sea-captain's son, and after serving in the army of Henry IV., went with a Spanish fleet to the West Indies and Mexico, writing on his return a narrative of the expedition, which is preserved at Dieppe; a translation was published by the Hakluyt Society 1859. He was sent to Canada 1603 by De Chastes, explored the coast 1604–07, and made surveys and maps. Going out again 1608, he began to settle Quebec, and became lieut. to Soissons and Condé, successively governors of New France. He surrendered to the Kirks 1629, was taken to England, set at liberty 1632, returned to Canada 1633, and died there. His *Des Sauvages* appeared 1603; *Voyages*, 1613 and 1619, and an abridgment of these, with continuation to 1629 and appendices, 1632. The series was published 1870.

CHAMPOLLION, *sham-pol'e-on*, Fr. *shōng-pol-yōng'*, JEAN FRANÇOIS: 1790, Dee. 23—1832, Mar. 4; b. Figeac, dept. of Lot, France; illustrious name in modern Egyptian archæology. In 1807, C. went to Paris, to pursue oriental studies, and, 1809, was appointed prof. of history in the Lyceum of Grenoble. In 1811–14, he published his work, *L'Egypte sous les Pharaohs*. In his endeavor to decipher the Rosetta Stone, C. labored under the error of supposing that in this inscription the hieroglyphics were wholly ideographic, and the demotic and hieratic characters wholly phonetic. Afterward he was led to believe that the hieratic characters were of the same nature as the hieroglyphic, and this conviction he expressed in a communication made to the *Académie des Inscriptions*, 1821, Aug. In the same year he published his essay, *Sur l'Ecriture Hiératique des Anciens Egyptiens* (Grenoble), a work now scarce. In this essay he continued to assert the common ideographic nature of both hieroglyphic and hieratic characters. Meanwhile, C. had been made acquainted with the conclusions of the acute mathematician, Dr. Thomas Young (q v.), respecting the phonetic use of hieroglyphic signs. Without doubt, it was this important discovery, of which Dr. Young, however, made no great use, that set C. on the right track of investigation, and led to those brilliant results which were regarded by Niebuhr as constituting the greatest discovery of the century. By a comparison of the name of Ptolemy on the Rosetta Stone with that of Cleopatra on the Philen-sian obelisk, he was enabled to lay the foundation of an alphabet, which he continued to elaborate until it became the basis of modern Egyptian archæology. His first decisive discoveries were made known in his celebrated *Lettre à Mons. Dacier* (Par. 1822), followed by the *Précis du Système Hiéroglyphique* (Paris, 1824; second ed. 1828); but his principal work, the *Grammaire Egyptienne*, was posthumously published 1836.

In 1824, appeared his *Panthéon Egyptien*; in 1825, his

CHAMPOLLION-FIGEAC—CHANCE.

celebrated letters to the Duc de Blacas, in which he explains the names and the titles of many of the Pharaohs, inscribed on the monuments in Drovetti's Egyptian Collection at Turin, and attempts to class them into dynasties. His theory of *interpretation* was much controverted at first, but its importance was recognized by such distinguished scholars as Rosellini, Bunsen, Sir William Gell, and others.

In 1828 he was appointed by Charles X. to accompany a scientific expedition to Egypt, of which the results were given by Rosellini in the *Monumens de l'Egypte et de la Nubie* (Par. 1835–45). On his return to Paris, 1830, C. was made a member of the *Académie des Inscriptions*, etc.; and, in the following year, was appointed to the new chair of Egyptian antiquities in the College of France; but soon after the commencement of his intended course of lectures, 1831, May, he fell ill and died. According to Silvestre de Sacy, ‘few men, since the birth of letters, have rendered to erudition services equal to those which have consecrated to immortality the name of Champollion.’

CHAMPOLLION - FIGEAC, *shōng-pōl-yōng'-fe-zhāk'*, JEAN JACQUES: archæologist: 1778–1867, May; b. Figeac, dept. of Lot, France; older bro. of Jean François Champollion. After holding in Grenoble the offices of librarian and professor of Greek literature, he was appointed, 1828, conservator of MSS. in the imperial library in Paris, but, after the February revolution, was deposed by Carnot. In 1849, he was appointed, by Louis Napoleon, librarian of the palace of Fontainebleau. Beside the *Antiquités de Grenoble* (1807), his chief works include the *Annales des Lagides* and *Egypte Ancienne* (forming a part of *L'Univers Pittoresque*); *Les Tournois du Roi René*, a splendid work, with lithographs by Motte; and several publications of old French documents. After the death of his younger and more celebrated brother, C. was employed in editing the MSS. left by that distinguished scholar, and has given an account of them in the *Notice sur les Manuscrits Autographes de Champollion le Jeune* (Par. 1842).

His son, AIMÉ C.-F., follows the same path of historical antiquarianism, and has published several interesting and useful works.

CHANAK-KALESSI, *shā-nák'-kā-lěs-sē'* [Turk., Pot Castle]: town of Anatolia, named from its manufactures of crockery; on the Dardanelles, about 28 m. s.w. of Gallipoli. Its castle is the most important on the Dardanelles, and the name Dardanelles is sometimes given to the town itself. Pop. 3,000 or 4,000.

CHANCE, n. *chāns* [F. *chance*, chance — from OF. *chéance*; It. *cadenza*—from mid. L. *cadentia*, that which falls out fortunately—from L. *cadērē*, to fall, used in dice-playing]: that which happens in virtue of laws of whose operations we are more or less ignorant; an unforeseen event; accident; what fortune may bring; an opportunity: V. to happen; to occur without design; to risk: ADJ. casual; accidental. **CHAN'CING**, imp. CHANCED, pp. *chānst*. **DOCTRINE OF CHANCES**, the important theory which has

CHANCE—CHANCEL.

for its object the determination of the number of ways in which a future or uncertain event may happen or fail, whether the *chances* of its happening or failing are the greater, and in what proportion.—SYN. of ‘chance, n.’ fortune; fate; probability; hazard; fortuity; casualty; opportunity.

CHANCE: originally and strictly that which determines the course of events, in the absence of law, ordinary causation, or providence. Strictly speaking, it is a notion which few would now be disposed to admit as corresponding to anything which really exists; the religious mind excluding it as inconsistent with the belief in the divine government, and the philosophical mind rejecting it as inconsistent with a recognition of universal laws of causation. As a word, however, it always has been, and will be popularly accepted; and its use is correct so far as we overlook, or choose for the moment to throw out of view, the more universal connection of events, and regard them as their emergence, on a superficial view, appears to be determined. The idea of C., as referring to some apparently capricious or at least inexplicable cause of an event, distinguishes it from the word probability, or the degree with which the expectation of an event approves itself to a particular mind; the first expresses what metaphysicians would call an objective, and the second a subjective idea. It is clear that C., being legitimate only as an expression in popular parlance—or if admitted as a term in philosophy, one that would at once lead into most inextricable problems—is a term much too indefinite to admit of any kind of measurement; while what we call probability, or the degree with which an expectation approves itself, owing to certain data presented to the mind, does, as we shall hereafter see, admit of a kind of measurement which leads to very important consequences. For what is sometimes called the *Doctrine of Chances*, but is more properly the *Theory of Probabilities*, see PROBABILITY.

CHANCEL, n. *chān'sēl* [F. *chancel*—from L. *cancel'li*, lattices or railings with which the chancel was inclosed]: grating separating the choir from the nave; that part in a church where the altar is placed. The C., choir, or eastern part of a church, was often separated from the nave by a screen of lattice-work, so as to prevent general access thereto, though not to interrupt either sight or sound. As it was in this part of the C. that the service was always performed previous to the reformation, the clergy were in England held to have a special right to it, in return for which its repairs in general still fall on the impropriator, rector, or vicar, and not on the parish. The chief pew in the C. belongs to the rector or impropriator, but the disposal of the seats in the church, with this exception, belongs to the ordinary, or, practically, to the church-wardens, to whom the authority of the ordinary is delegated. No monument, moreover, can be set up without the ordinary’s consent. The term C. is usually confined to parish churches which have no aisles around the choir, or chapels behind

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it or around it; and in this case the C. and the choir have the same signification. But in larger churches there are sometimes chancels at the ends of the side aisles, and this whether the choir has the character of a choir in the larger sense, or of a chancel: see CHURCH.

CHANCELLOR, n. *čán'sél-ér* [F. *chancelier*—from mid. L. *cancellariūs*, an usher, a notary, a chancellor—from L. *cancelli*, lattices, as anciently sitting behind them (see CHANCEL,]): a judge or officer in a court who possesses the highest power and dignity; the highest honorary officer of a university (see UNIVERSITY); an ecclesiastical dignitary of a cathedral; superintendent of arrangements for celebrating the religious services—an office quite distinct from that of C. of a diocese, who is a lawyer officially attached to an episcopal court (see CHANCELLOR OF A DIOCESE). **CHANCELLORSHIP**, n. the office of a chancellor. **CHAN'cery**, n. *-sér-í* [OF. *chancellerie*—from mid. L. *cancellariā*, a place where public records were kept]: the high court of equity in England and Ireland, presided over by the lord chancellor. **CHANCERY** (or **CHANCELLARY**) **OF SCOTLAND**, public office at Edinburgh, for registration of charters, patents of dignity, gifts of offices, remissions, legitimizations, presentations, commissions, brieves, retours, and other writs appointed to pass the great seal are recorded (see GREAT SEAL). **LORD HIGH CHANCELLOR**, a lawyer and peer of the realm who presides in the house of lords—is keeper of the great seal, a cabinet minister, and keeper of the sovereign's conscience, has an extensive jurisdiction in his judicial capacity, and is next in precedence to the royal family after the archbishop of Canterbury. **CHANCELLOR OF THE EXCHEQUER**, a cabinet minister and great officer of state whose chief office is the practical management of the revenue, and who must be a member of the lower house: see EXCHEQUER.

CHAN'CELLOR: high officer of state having various functions; in law, the highest judge or official in a court of equity. It is said that the chief notary or scribe of the Roman emperor was called C., either because he was intrusted with the power of obliterating, *cancelling*, or *crossing out* [*cancellare*, to make lattice-work] such expressions in the edicts of the prince as seemed to him to be at variance with the laws, or otherwise erroneous; or because he sat *intra cancellos*, within the lattice-work or railings (*cancelli*) erected to protect the emperor from the crowding of the people when he sat in judgment. The title and the office of C. are found in various countries. The C. of France (Chancelier de France), from a very early time, was an officer of state of great power and dignity, under whom several other officers, bearing also the title of C., were employed in the administration of justice and in the defense of the public order. The C. of France was the constitutional interpreter of the will of the sovereign; his functions being on the whole analogous to those exercised by the C. of England. It indicates the change of the value of money, that, in 1290, the salary of this high official was six

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sous a day, with the privilege, to him and his, of eating at the court. When he was at Paris, and ate at his own lodgings, he had twenty sous a day. The office was abolished at the revolution; and though it was restored by the Bourbons, and even under the first Napoleon the higher-sounding title of archi-chancelier was revived, many of the functions of the old C. were transferred to the minister of justice, and have ever since been held by him.

In most of the other countries of Europe there are officers of state who bear this, or analogous titles, though their powers and duties are very various. The chief functionary in the Austrian Empire has often been termed C.; and on the reconstitution of the German Empire, Prince Bismarck was made ‘C. of the Empire (*Reichskanzler*).’ Besides these state-chancellors, there were officers in many other capacities to whom the title was given. Every bishop has his C. in the Church of Rome, and there are still law chancellors of cathedrals, dioceses, universities, etc.

In some of the United States this officer as a judge of equity was created by constitutional provision; but in several of these the office has been abolished, and its functions have been variously assigned: see CHANCERY, COURT OF.

CHANCELLOR, LORD, or LORD HIGH: keeper of the great seal, an officer of very high dignity, and a judge of extensive jurisdiction. The existence of the office in England, as in the other states of Europe, is usually ascribed to the influence which the constitution of the Roman empire had on the constitutions of the modern nations. This influence was exercised in no small measure through the medium of the church, the profession of the law being generally exercised by ecclesiastics; and it is for this reason, probably, that the bishop and the king are furnished with officers bearing the same title, and exercising analogous functions. The C. is always the confidential adviser of the sovereign in state affairs. For this reason he has been called the keeper of his conscience; and in England to him the duty was intrusted of presiding over a court which acted on what were called—by way of distinction—equitable considerations. It is in this latter prerogative chiefly that the English C. is distinguished from all other judges; for, while they are held by the letter of the law, he was at one time supposed to act rather *juxta bonum et aequum*. In certain more special points of view, there is a similarity between the functions of the chancellors in different countries. ‘In all of them he seems to have had the supervision of all charters, letters, and such other public instruments of the crown as were authenticated in the most solemn manner; and therefore, when seals came into use, he had always the custody of the sovereign’s great seal.’—Stephen’s *Commentaries*, vol. iii., p. 398. Therefore, the office of C., or Keeper (q.v.)—which, by 5 Elizabeth, c. 18, is declared to be exactly the same—is created without writ or patent, by the mere delivery of the great seal, and that the C., if a baron, takes precedence of every temporal lord not a member of the royal family, and of all bishops except the Abp.

CHANCELLOR OF A DIOCESE.

of Canterbury. The C. is a privy-councilor by his office, and a member of the cabinet, and prolocutor, or speaker of the house of lords, by prescription. Though the form in which his tenure of office is terminated, is by the resumption of the great seal by the sovereign, the C. practically resigns office with the party to which he is attached. He has the appointment of all justices of the peace throughout the kingdom, though this privilege he exercises usually on the recommendation of the lord-lieutenants. But the most important, and, as it now seems, somewhat anomalous branch of his patronage, arises from his having been originally an ecclesiastic. Though the last bishop who held the office was John Williams, Abp. of York, lord keeper 1621, July 10—1625, Nov. 1, the C. still continues to be patron of all the crown livings of the value of £20 per annum, or under (though in 1863 about 300 were sold to augment the incomes of those sold and those retained), and visitor of all hospitals and colleges of the king's foundation. As representing the paternal character of the sovereign, the C. is the general guardian of all infants, idiots, and lunatics, and has the supervision of all charitable uses in the kingdom. As regards his judicial patronage, the arrangement is, that the C. appoints in general all the judges of the superior courts, except the two chief-justices, who are nominated by the prime-minister of the day. Of inferior appointments, the prime minister has reserved to him also the commissioners of bankruptcy and the judges of the county courts. All these functions the C. performs in addition to his extensive duties as the supreme judge of the court of chancery, both as an ordinary court of common law and of record, and as an extraordinary court of equity. Much inconvenience had arisen from the accumulation of duties in the single person of this high dignitary, and various expedients had been devised for lessening the evil. Vice-chancellors had been appointed, and the duties of the master of the rolls had been extended. In 1875 a considerable change was made by consolidating all the vice-chancellors' courts into one division, called the chancery division of the high court. And the C.'s duties in the house of lords as the highest appeal court were lightened in 1876. The proposal of a minister of justice has, however, not yet found favor. The salary of the C. is £10,000 a year, and he has an annuity of £5,000 on his retirement from office. The style of the C., since the union with Scotland, has been lord high chancellor of Great Britain; but he has scarcely any jurisdiction in Scotland, and in Ireland there is a separate C., having powers in most respects the same as those of C. of Great Britain. To slay the C. is treason under 25 Edward III. c. 2.

CHANCELLOR OF A DIOCESE: vicar-general to the bishop; an ecclesiastical judge, appointed to assist the bishop in questions of ecclesiastical law, and hold his courts for him. In England it is provided that the C. of a diocese may be a layman, whether married or single, provided he be doctor of the civil law, lawfully created and made in some university. By the canons of 1603, he must

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be a bachelor of law, at the least, or a master of arts. There are certain cases, however, in which the bishop must sit in person. In case of complaint against a clerk in holy orders, for any ecclesiastical offense against the church discipline act (3 and 4 Vict. c. 86), the bishop is to hear the cause, assisted by three assessors; of whom the dean of his cathedral, or one of his archdeacons, or his chancellor, must be one; and a sergeant-at-law, or advocate who has practiced 5 years in the court of the archbishop of the province, or barrister of 7 years' standing, must be another.

CHANCELLOR OF SCOTLAND: official who, previous to the union of the two kingdoms in 1707 (when the office was abolished), performed functions in many respects analogous to those of the lord high chancellor of Great Britain. The distinction between law and equity in the English sense never having been recognized in Scotland, the C. had no judicial functions separate from those of the ordinary courts of law, but he had the principal direction of the chancery (q.v.). In early times, the C. of S., as of England, was very frequently an ecclesiastic; but the first C., Constantine, Earl of Fife, in the reign of Alexander I., and the last, the Earl of Seafield, who held the office at the Union, both were laymen; and many other nobles, Earls of Argyle, Angus, Huntly, etc., appear in the lists given in Crawford's *Officers of State*, and Chalmers's *Caledonia*. On the abolition of the office, a keeper of the great seal was appointed, who acts merely ministerially in affixing it to the writs which pass under it: see **GREAT SEAL**.

CHANCELLORSVILLE, *chān'sel-érvil*, BATTLE OF: 1863, May 2-4, in Spottsylvania co., Va. Hooker had succeeded Burnside in command of the Army of the Potomac, Jan. 26, and within three months had brought it into excellent condition. Including 13,000 cavalry, he had 132,000 men, in seven corps, under Reynolds, Couch, Sickles, Meade, Sedgwick, Howard, and Slocum, encamped on the n. bank of Rappahannock opposite Fredericksburg. Jackson's (Confederate) corps and part of Longstreet's, numbering 62,000, were on the heights across the river. Apr. 27, most of the Union cavalry under Stoneman were sent toward Richmond to cut off Lee's communications, and on the succeeding days Hooker, after making a feint to cross below Fredericksburg, forded the river higher up. April 30, he had 48,000 men at C., a clearing on the edge of a wilderness, about eleven m. w. of Fredericksburg and 65 n. by w. of Richmond. 18,000 under Sickles were not far behind. The object was to get position behind the enemy, and force them to fly or to fight on ground chosen by Hooker. He, however, retired from the open country into the woods when faced by the Confederates, May 1.—Here Jackson, May 2, surprised and routed Howard's corps, posted on the right; but Pleasanton with two regts. of cavalry got together some artillery and repelled further attack. Meantime Barry's div. of the third corps and some others had checked the Confederate advance in front, and Jackson, riding back from a reconnaissance, was mortally wounded, probably by his own men in mis-

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take—a loss to the Southern cause equal to a heavy defeat. Hill being wounded soon afterward, the command fell to Stuart, who was now ordered by Lee to ‘press those people.’—May 3, Sunday, Hooker stood on the defensive, in three lines of an irregular square. Sickles (third corps) bore the brunt of Stuart’s attack; his ammunition giving out, he sent for aid. Two corps were then disengaged and available, and reinforcements to Sickles might have turned defeat into victory, but Hooker had been stunned by the concussion of a ball, and the demand was unheeded. French drove back Stuart’s left wing for a few moments (the only Federal attack on that day), but was soon repulsed. Lee now attacked Hooker’s centre with two divisions, and joined Stuart at 10 A.M. 42,000 Union troops were idle within two miles, but Sickles with 10,000 men could not withstand the entire Confederate force, then some 40,000 strong. Couch had now taken temporary command, and the Federal line fell back to a good defensive position, marked out the previous night. Lee was about to order an attack when he heard that Sedgwick (sixth corps) had crossed the Rappahannock below Fredericksburg, carried the heights, and was pushing Early. He sent back troops which checked Sedgwick’s advance, and a destructive but indecisive conflict ensued.—May 4, Monday, Lee might still have been overwhelmed by vigorous action, but none was taken. The whole Confederate force was now concentrated against Sedgwick, who was driven to the river, and crossed it under conflicting orders in the night.—May 5, Hooker recrossed. The Union losses in these actions were 12,000 killed and wounded, mostly in the corps of Sickles and Sedgwick, and 5,000 missing; on the Confederate side, 10,300 killed and wounded, and 2,700 missing. Reynolds’ and Meade’s corps had scarcely been engaged or injured. The success of a greatly inferior force in a disadvantageous position was due to better generalship, aided by one or two accidents. The Union commander said he had ‘fought no battle,’ because he could not get his men into position. Stoneman returned, May 8, with the cavalry, having come near Richmond, but accomplished nothing of moment.

CHANCE-MEDLEY, n. *châns mèd'lî* [F. *chaude meslée*—from *chaud*, hot, and *meslée*, bickering, fight]: an accidental conflict not prepared beforehand; in law, unintentional homicide in self-defence, or on a sudden quarrel; in *OE.*, a mixture made at haphazard.

CHANCE-MEDLEY, and **CHAUD-MEDLEY**, *shôd-mèd-lî*, or (in Scotland) **MELLE** [Fr. *chaud*, hot, and *mélée*, a fray]: French expressions borrowed in English law. Though often spoken of as synonymous, they are distinct in meaning—the first signifying a casual affray; the other, an affray in the heat of blood or passion. Both are in most countries recognized as pleas in mitigation of the offense of homicide (q.v.); see also **SANCTUARY**.

CHAN'CERY: official establishment of a chancellor (q.v.) As the Roman emperors, and after them the various sovereigns who divided the vast inheritance of the empire,

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had each a chancellor (q.v.), so in every European kingdom there was an establishment called a C., where these officers performed their functions. If we imagine a large chamber divided by lattice-work (*cancelli*), the outer half devoted to the people, the inner occupied by the chancellor and his subordinates, engaged in framing edicts, letters of nobility, and the like, and engrossing them on parchment, and sealing them with the king's own seal in proof of their authenticity, and then handing them through the railings to the people without, we shall have some conception of the C. in its earliest form.

In France, as there were subordinate chancellors attached to the parliaments of the respective provinces, so there were subordinate chanceries; but the grand C. of France, which followed the person of the king, was alone, in strictness, entitled to the name.

The apostolic C. at Rome, in which, in addition to the documents pertaining to his temporal sovereignty, the bulls and briefs of the pope are authenticated, is presided over by a cardinal, with the title of vice-chancellor.

CHANCERY, COURT OF [see CHANCELLOR]: high court of equity. In England, besides the function pertaining to the chancellor in other countries, the chancellor had early assigned to him the office of a judge; and the English C. consequently became a court of law, the peculiar character of which will be rendered intelligible by the following considerations: In assigning judicial functions to the chancellor's department, it was not intended that it should interfere with that other department of government which has everywhere been distinguished both from the legislative and the executive—viz., the judicial. But in all departments, according to the imperial theory from which the idea of the C. at least was derived, the sovereign was supreme, and to his will, or to his sense of justice, there was consequently an appeal in judicial, as in other matters. His chancellor, however, was his adviser in all matters whatsoever; and thus, though not a judge in the stricter sense, it is manifest that his counsel, in judicial matters of the highest importance, would constantly be called in. But further, the king governed by laws, even before he was governed by them; and for the sake of order and his own convenience, he would naturally add to or supplement the law which he had established, only where it could be shown to him that it did not meet the substantial justice of the particular case. He would consequently be a judge, not of the interpretation or application of the law, which he would leave to his ordinary judges, but of its adequacy to circumstances which had changed, or had not been anticipated; and when he interfered, it would be to some extent in the character of a legislator, as well as of a judge. The king would thus be a judge in equity, in the popular and intelligible sense of that word; and acting in this capacity himself, it would be in this capacity that he would call in the aid of his chancellor. It is not mysterious, then, how in early times, the court of C. came to be a court of equity; and the chief difficulty regarding its origin seems to attach to the other of the two great departments into

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which it is divided, and in which it exercises jurisdiction as a court of common law. But as the free constitution of England developed itself, it soon became apparent that equity, in the old despotic or patriarchal sense—in which it was not so much the administration as the making or modifying of law—was inconsistent with its principles, whether it proceeded from a judge or from the monarch himself. The popular sense of equity was consequently abandoned; and a technical sense, unknown to the jurisprudence of every other nation, was given to it. The proceedings of the court of C. ‘on its equity side,’ which had hitherto been a mere supplement to law, came now to be hedged in by rules and precedents as closely as those of any court of common law. What henceforth continued to be the distinction *in principle* between law and equity, or between the functions of the courts of common law and the court of C., or even of the two great departments of this court itself, it is perhaps impossible to state. For the arbitrary line which has been drawn between the class of cases assigned to the one set of courts and to the other, see EQUITY.

In England, the judicial duties of the chancellor have long been shared by the master of the rolls (q.v.), an officer of high rank, originally appointed only for the superintendence of the writs and records appertaining to the common law departments of the court, but who was accustomed also to sit as a separate though subordinate judge on the equity side; and who now hears motions, pleas, and demurrers, as well as causes generally. His salary is £6,000 a year. The vast increase of business caused the appointment, 1813, of another assistant to the chancellor, under the title of the vice-chancellor of England; and in 1841, when the equity business of the exchequer was transferred to the C., two more vice-chancellors were added, judges sitting separately from the lord chancellor—each with annual salary of £5,000. Another important addition (14 and 16 Vict. c. 83) was that of the lords justices of the court of appeal for all courts. A court consists of the lord chancellor, together with these judges; but the lords justices, when sitting without the chancellor, possess the same jurisdiction which belongs to him, and their existence does not prejudice his right to sit alone. The lords justices have the same authority in matters of lunacy as the chancellor; and they, sitting together, constitute, without the chancellor, the court of appeal in bankruptcy. An appeal, which may be entertained also by the lord chancellor sitting alone, lies to this court from all the separate courts of the chancery division; and from this appellate jurisdiction there is an appeal in turn to the house of lords. The lords justice may also take up original causes, though these, in practice, are mainly confined to the divisional courts of the high court. Till recently, certain parts of the equitable jurisdiction of the court of C. were confided to the masters in ordinary (see MASTERS IN CHANCERY) and the accountant-general. The office of the masters has been abolished, but that of the accountant continues one of the most important connected with the court.

CHANCRE—CHANDELEUR ISLANDS.

The subdivision of courts into those of equity and common law had long been found mischievous, inasmuch as it in some cases doubled the expense to the suitor, by sending him from one court to another for instalments of the justice which he sought. For the changes under the judicature acts of 1873-76, and the constitution of the new high court of justice, see COMMON LAWS. The C. court is now the chancery division of the reconstituted high court.

On the continent of Europe the English court of C. has always been a subject of ridicule; and a recent French writer, in speaking of it, says: ‘Nothing ever comes to an end in it; and the unhappy man who has a process there, can be sure of but one thing—viz., that whether he gains it or loses it, his ruin is certain.’ The acts by which evils inseparable from the constitution of the court of C.—and which spring from the distinction between law and equity, on which its very existence depended—had been mitigated, were the following: 15 and 16 Vict. cc. 80, 86, and 87; 21 and 22 Vict. c. 27; 23 and 24 Vict. cc. 38, 128; 25 and 26 Vict. c. 2.

In various colonies of the British empire, local courts have been established in imitation of the high court of C., an institution which, from its cumbrous, anomalous, and unscientific character, scarcely merited imitation; but in the United States, though the English distinction between law and equity was at first adopted and long adhered to with the tenacity with which Englishmen cling to their native customs, it has in later years been abolished in most of the states, and law and equity now constitute one system, administered in one series of tribunals of original and appellate jurisdiction. In some of the seven states in which, by late reports, courts of chancery are still held, they are held by justices of the supreme court.

CHANCRE, n. *shāng'kér* [F. *chancre*—from L. *cancerum*, or *cancer*, a crab, a cancer]: a venereal ulcer (see SYPHILIS).
CHANCROUS, a. *shāng'krūs*, ulcerous.

CHANDAH, or **CHANDA**, *chān'da*: town of India, on the s.w. frontier of the territory of Nagpore, on the left bank of the river Eraee, near its junction with the Wurda, 90 m. s. of the town of Nagpore. Its walls, of cut stone, with a high parapet, are 6 m. round, from 15 to 20 ft. high, and flanked with round towers, large enough for the heaviest guns. Within the place, and almost equi-distant from the n. and s. faces, is a citadel; the rest of the interior consists of straggling streets, detached houses, and plantations. It is well supplied with water. In 1818, C. was taken by the British. Pop. 17,000.

C. is cap. of a British administrative dist. having (1901) 10,785 sq. m. Pop. 700,000.

CHANDĀLA, *chān-dā'la*: class among the Hindus deemed the lowest and the most polluted, according to their rule of caste (q.v.).

CHANDELEUR ISLANDS, *shān-de-lōr'*: in the Gulf of Mexico, and about 65 m. n. by e. of the mouth of the Mississippi, off the coast of La., from which they are separated

CHANDELIER—CHANDLER.

C. Sound. At the n. end of the northernmost island is C. lighthouse, lat. $30^{\circ} 3' n.$, long. $88^{\circ} 52' w.$

CHANDELIER, n. *shān-dē-lēr'* [OF. *chandelier*, a dealer in candles—from mid. L. *candelūriūs*, a chandler—from L. *candēla*, a candle]: a hanging branched lamp.

CHANDERNAGORE, *shān-der-na-gōr'*, or CHANDERNAGAR, *shān-der-na-gār'*: French colonial city, with a scanty territory of about 2,000 acres, on the right or w. bank of the Hoogly, 21 m. above Calcutta by railway, on the opposite shore; lat. $22^{\circ} 50' n.$, long $88^{\circ} 23' e.$ The population consists of a few Europeans and Eurasians, the great bulk being natives of unmixed blood. Independently of political considerations, the place has, through the gradual silting up of the river, lost some of its commercial advantages. Within 100 years, ships of the line have ascended to C.; now, however, vessels even of far inferior burden seldom pass above Diamond harbor, which is nearly 50 m. further down. C. was established 1676, and for a while rivalled Calcutta. It was captured by Clive 1757, but finally restored to the French 1816. Pop. estimated abt. 30,000.

CHANDHAIREE, *chand-hī-rē'*, or CHANDERI: town of Gwalior, India, in a hilly and jungly district, near a tributary of the Jumna. It is much decayed on account of Mahratta oppression, the scourge of war, and the decay of its manufactures, which are undersold by the cheaper fabrics of Britain; but the extent and architectural excellence of its ruins indicate its splendor and importance in former times, when it is said to have contained 14,000 stone houses, 384 markets, 360 caravanseries, and 12,000 mosques. The fort of C., formerly deemed impregnable, consists of a strong rampart of sandstone, flanked by circular towers, and is on a high hill. Among the remains of former greatness, is a pass cut through a solid rock 100 ft. high. During the native wars, being a place of importance, C. was frequently besieged. Under Mahratta sway, it became a haunt of free-booters, very troublesome to the native districts under British rule or protection and on the conclusion of the treaty of 1844, it was, with other lands, assigned for the maintenance of the increased Gwalior contingent, commanded by British officers.

CHANDLER, n. *chānd'lēr* [Ger. *handler*, a dealer in small-wares]: a maker of candles, or dealer in them; a dealer or shopkeeper; a dealer, as *corn-chandler*. CHANDLERY, n. -*ī*, goods sold by a chandler.

CHANDLER, *chānd'lēr*, JOHN: 1806, June 16—1876. July 1: one of the earliest and best translators of Latin hymns into English; b. Witley, Surry, England. He graduated at Corpus Christi College, Oxford, 1827; became curate to his father at Witley 1831, and was vicar there from 1837. His *Hymns of the Primitive Church*, 1837, contributed largely to the collections of the Church of England and of other bodies, and many of its 108 renderings are still used on both sides of the ocean; they are plain, simple, solid, effective, and at times beautiful. A few more were

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added in a small volume, *Hymns of the Church* (1841); both books are rare. C. wrote also a *Life of William of Wykeham* (1842), *Horæ Sacrae* (1854), and some sermons and tracts.

CHANDLER, JOSEPH RIPLEY: 1792, Aug. 25—1880, July 10; b. Kingston, Mass.: journalist. After serving as clerk at Boston he removed to Philadelphia about 1815, opened a school, which he continued for some ten years, and published *A Grammar of the English Language*, 1821. He was editor of the *United States Gazette*, 1822-47, and raised it to prominence; was a city councilman 1832-48, a delegate to the Penn. constitutional convention 1836, in congress as a whig 1849-55, and minister to Naples 1858-60. Mr. C. was active in prison reform, and published several addresses, orations, etc. He died in Philadelphia.

CHANDLER, RICHARD: 1738-1810, Feb.; b. Elson, Hampshire: Eng. antiquary. He was educated at Oxford. He became known as the editor of the magnificent work, *Marmora Oroniensia*, pub. by Oxford Univ. 1763. He afterward travelled through Greece and Asia Minor, with Revett, an architect, and Pars, a painter, at the instance of the then flourishing Dilettanti Society, to collect information regarding the former state of these countries, and to procure exact descriptions of the ruins. The result appeared 1769, in two vols., entitled *Ionian Antiquities*. C. published also a valuable account of the ancient inscriptions of Asia Minor and Greece; and his account of his travels in these countries, issued in 1775-76, is still standard. He published also a *History of Troy*.

CHANDLER, ZACHARIAH: 1813, Dec. 10—1879, Nov. 1; b. Bedford, N. H.: senator. He was a farmer's son, and is said to have chosen \$1,000 rather than a college education. He settled at Detroit 1833, acquired wealth as a merchant, became prominent in whig polities, supported the abolitionists' 'underground railroad,' was elected mayor 1851, and defeated for gov. 1852. He was active in organizing the republican party 1854, and continued one of its leading spirits. His career in the United States senate began 1857 and lasted till 1875; there he opposed the admission of Kansas under the Lecompton constitution, 1858, Mar. 12, and joined Ben. Wade in stoutly resisting the slave power. His 'blood letter' to Gov. Blair of Mich., 1861, Feb. 11, showed him to be a radical extremist, but events proved him a true prophet. In the same spirit he expressed regret that Pres. Lincoln had not called for 500,000 men at once instead of 75,000, and for a longer term in place of three months. He vigorously supported the war, brought in a bill for the confiscation of rebel property 1861, July, attacked Gen. McClellan 1862, July, and contributed to Lincoln's re-election 1864. He was chairman of the committee on commerce for many years, a member of other important senate committees, chairman of the republican national committee 1868 and 1876, sec. of the interior 1874-77, and was again in the senate 1879, to fill a vacancy; here he denounced Jefferson Davis Mar. 2. He delivered an earnest

CHANGARNIER.

speech in Chicago Oct. 31, and was found dead in his room the next morning.

CHANDLER SCIENTIFIC DEPARTMENT: see DARTMOUTH COLLEGE.

CHANDORE, *chān-dōr'*: town and fort in the dist. of Nassick (q. v.), presidency of Bombay; lat. $20^{\circ} 20'$ n., long. $74^{\circ} 14'$ e. C. is a flourishing place. The fort, which commands an important pass on the route between Candeish and Bombay, is on the summit of a hill naturally inaccessible everywhere but at the gateway. It surrendered to the British in 1804; and being subsequently restored to Holkar was finally ceded by him 1818. Pop. abt. 6,000.

CHANDOS CLAUSE, *chān'dos*: clause proposed by the Marquis of Chandos (tory—afterward Duke of Buckingham), during the discussion of the clauses of the Reform Bill (q. v.) 1831, in the Brit. parliament. It gave the county franchise to *tenants at will* occupying lands for which they paid an annual rent of £50. This was opposed by the ministers on the ground that the class proposed to be enfranchised would be subject to the coercion of the land-owners, who would thus virtually determine the elections. The amendment, however, was supported by many of the radicals, who at that time regarded any extension of the suffrage as a boon, and was carried by a majority of 84. The clause was incorporated in the bill of the following year, and was finally carried by a majority of 272 to 32. The result proved a material accession to the conservative element in counties. Under the Reform Act of 1867, occupants of lands of a ratable value of £12 are entitled to the county franchise.

CHANDPOOR, *chānd-pōr'*: town of British India, in the N. W. Provinces, dist. of Bijnour, abt. 930 m. n.w. of Calcutta, and 80 n.e. of Delhi. Pop. abt. 12,000.

CHANFRIN, n. *shān'frīn*, or CHANFRON, *shān'frōn*, or CHAFFRON, n. *shāf'rōn* [F. *chanfrein*]: fore part of a horse's head extending from under the ears along the interval between the eyebrows and the nose; the armor or mask for such a part (see CHARGER); the corresponding part in other animals.

CHANGARNIER, *shōng-gār-ne-ā'*, NICOLAS ANNE THÉODULE: 1793–1877, Feb.; b. Autun: French general. He received his education at the military school of Saint-Cyr. In 1830, he went as lieut. to Algeria, where he distinguished himself and rose to the rank of gen. of division. After the proclamation of the republic, 1848, he was appointed gov.-gen. of Algeria, in the place of Cavaignac; but being chosen a member of the national assembly, he returned to Paris, when he was appointed commander-in-chief of the garrisons of Paris and of the national guard. He held this double office till 1849, May, and again for some time after the insurrectionary movements of June. C. was a member of the legislative assembly, where he held a sort of neutral position between the Orleanists and Legitimists, and opposed to the Bonapartists. At the *coup d'état* 1851, Dec.,

CHANG-CHOW-FOO—CHANGELING.

after being imprisoned in Ham, he went into exile till the Franco-Prussian war, when he offered his services to Napoleon III. He was in Metz with Bazaine; and, on its capitulation, retired to Brussels. He returned to France 1871, entered the assembly, and assisted M. Thiers in reorganizing the army.

CHANG-CHOW-FOO, *cháng-chōw-fó'*, or CHAOU-CHOW, *chá'ō-chōw*: city of China, cap. of a dept. of the same name, in the province of Keang-su; $31^{\circ} 50'$ n. lat., and $3^{\circ} 24'$ long. e. of Pekin.

CHANG-CHOW-FOO: city of China, cap. of a dept. of the same name, in the province of Fuh-keen; $24^{\circ} 31'$ n. lat., and $1^{\circ} 24'$ long. e. of Pekin.

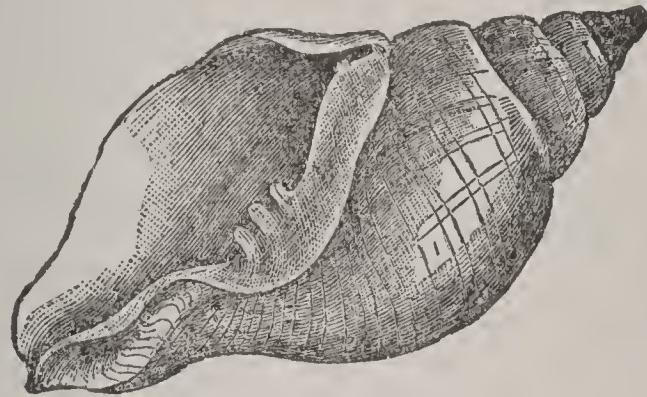
• CHANGE, n. *chānj* [F. *changer*; OF. *changier*—from mid. L. and It. *cambiārē*, to exchange—from L. *cambīrē*, to exchange: Icel. *kaupa*, to deal]: an alteration of variation on anything; a passing from one state or form to another; vicissitude; variety; small money. CHANGE, contracted for *exchange*, a place where persons meet for the transaction of business: V. to alter; to make different; to shift; to put one thing in the place of another; to leave one thing or state for another; to give one kind of money for another; to undergo variation. CHAN'GING. imp. CHANGED, pp. *chānj'd*. CHANGER, n. *chānjér*, one who. CHANGE'ABLE, a. -*ā-bl*, fickle; prone to change. CHANGE'ABILITY, n. -*bil'i-ti*. CHANGE'ABLENESS, n. inconstancy; fickleness. CHANGE'ABLY, ad. -*blī*. CHANGE'FUL, a. -*fūl*, full of change; inconstant. CHANGE'LESS, a. constant; not allowing of alteration. CHANGE'LING, n. a child or thing put in place of another; a fool; a waverer; any one apt to change. CHANGES, n. plu. *chānj'iz*, the variation of any number of things, as in a peal of bells. CHANGE-WHEEL, n. one of a kind of wheels, having various numbers of cogs at the same pitch; used to connect the main arbor of the lathe with the feed-screw, so as to vary the relative rates of rotation and consequently the pitch of the screw to be cut.—SYN. of ‘change, v.’: to alter; vary; veer; turn; shift; diversify; innovate; exchange; barter; substitute;—of ‘change, n.’: variation; vicissitude; variety; alteration; transition; mutation; novelty; innovation; reverse; revolution; transmutation;—of ‘changeable’: mutable; variable; inconstant; fickle; versatile; unstable; unsteady; wavering; unsettled; giddy; erratic; volatile.

CHANGE'LING: child or thing put in place of another. It was at one time a common superstition that infants were taken from their cradles by fairies, who left instead their own weakly and starving elves. The children so left were called *changelings*, and were known by their perverseness, and their backwardness in walking and speaking. As it was supposed that the fairies had no power to change children that had been christened, infants were carefully watched until such time as that ceremony had been performed. This superstition is alluded to by Shakespeare, Spenser, and other poets; and it has not yet quite died out of some rural districts in Britain.

CHANG-SHA-FOO—CHANNEL ISLANDS.

CHANG-SHA-FOO, *cháng-shá-fó*: city of China, cap. of the province of Hoo-nan; 28° 20' n. lat.

CHANK-SHELL, *chāngk'shēl*: popular name of the shell of several species of *Turbinella*, a genus of gasteropodous mollusks of the group *Siphonostomata* (q.v.), natives of the East Indian seas. These shells are obtained chiefly on the coasts of the s. of India and Ceylon, and form a considerable article of trade to Calcutta. They are much used as ornaments by Hindu women, the arms and legs being encircled with them; and many of them are buried with the bodies of opulent persons. Those which are thrown up on the beach, after the death of the mollusk, and have become whitened, are little valued, but fresh



Chank-shell.

shells readily find purchasers. The commercial returns show an exportation of chank-shells from Madras amounting to the number of 2,460,727 in one year, 1853-54, value about \$50,000. The quantity ordinarily exported is smaller. A chank-shell opening to the right is rare, and is highly prized in Calcutta, so that a price of \$250, or even \$500, is sometimes paid for one.

CHANNEL, n. *chān'nēl* [OF. *chanel*—from L. *canālis*, a pipe for water—from *canna*, a reed: It. *canale*: F. *canal*]: a water-course; the hollow or bed of running water; the deepest part of a river, harbor, or strait; that through which anything passes; means of conveyance; a passage of water wider than a strait; a gutter; a furrow: V. to groove; to cut or form into a channel. CHAN'NELLING, imp. CHAN'NELLED, pp. -*nēld*.

CHAN'NEL, ENGLISH—*Mare Britannicum* of the ancients: arm of the Atlantic Ocean dividing England from France, gradually narrowing to the Strait of Dover. It is often called the Channel; and the fleet stationed in it the Channel fleet. A company was formed to make a tunnel from England to France beneath the Channel, and began operations. In 1882, the English government compelled the suspension of the works, most of the military authorities having reported against it as endangering the security of the United Kingdom.

CHANNEL ISLANDS: group of islands belonging to Great Britain, off the n.w. coast of France, between Normandy and Brittany. They are about 120 m. s.w. of

CHANNING.

Southampton, and the shortest distance from the French coast is about 10 m. The C. I. are the only parts of the dukedom of Normandy now belonging to the English crown, to which they have been attached since the conquest. King John, about 1200, lost all Normandy, except these isles. The chief islands of the group are Jersey, Guernsey, Alderney, and Sark. Total area, 75 sq. m. Pop. (1881) 87,731; (1891) 92,272: see JERSEY.

CHANNING, EDWARD TYRREL, LL.D.: 1790, Dec. 12—1856, Feb. 8; b. Newport, R. I., bro. of William Ellery C. With his brother Walter he studied at Harvard, was involved in a college 'rebellion' 1807, and did not graduate in course. He turned from law to literature, edited vols. VII., VIII., and IX. of the *North American Review*, 1818–19, and was Boylston prof. of rhetoric and oratory at Harvard 1819–51. His lectures appeared 1856 with a memoir by Richard H. Dana. His high reputation for taste, talent, and mastery of style is illustrated only by this volume, by a life of his grandfather, Wm. Ellery C. in Sparks's *Amer. Biog.*, and by sundry contributions to the *Review*. He died at Cambridge, Massachusetts.

CHANNING, WALTER, M.D.: 1786, Apr. 15—1876, July 27: b. Newport, R. I.: brother of William Ellery C. He studied medicine in Boston, Philadelphia, Edinburgh, and London, and began practice at Boston 1812. He was lecturer on obstetrics at Harvard 1812–15, prof. of obstetrics and medical jurisprudence 1815–54, and a physician of the Mass. General Hospital 1821–40. His most important work was a *Treatise on Etherization in Childbirth* (1848). Besides this he published an *Address on the Prevention of Pauperism* (1843); *Professional Reminiscences of Foreign Travel; New and Old; Poems* (1851); *A Physician's Vacation* (1856); and *Reformation of Medical Science* (1857). He died in Boston.

CHANNING, chän'ing, WILLIAM ELLERY, D.D.: 1780, Apr. 7—1842, Oct. 2; b. Newport R. I.: Unitarian preacher and author. He entered Harvard Univ. at the age of 14, and took his degree 1798. In 1803, he was ordained minister of a church in Boston. During his earlier ministry, his theological peculiarities had little prominence in his discourses, and in consequence he remained affiliated with his brethren in the Congl. churches then known as 'Orthodox.' In 1819, however, he preached a sermon at the ordination of the Rev. Jared Sparks, in which he advocated the Unitarian doctrine, with so much zeal and ability, that he was termed the 'Apostle of Unitarianism.' This involved him in controversy, to which he was naturally averse. Nevertheless, to the end of his life he preserved a devoutly Christian heart, shrinking with the delicate instinct of a pious nature from everything cold, one-sided, and dogmatic, whether Unitarian or Trinitarian. He never reunited himself with the 'orthodox' Congl. churches; yet as late as 1841, he wrote: 'I am little of a Unitarian, have little sympathy with the system of Priestley and Belsham, and stand aloof from all but those who strive

CHANNING—CHANT.

and pray for clearer light.' The explanation of this is, that while his views had not essentially changed since 1819 the Unitarian churches had come to a position new and not foreseen at first. In 1821, he received the degree D.D., from Harvard Univ., on account of his tractate on the Evidences of Christianity, his Address on War, and his Sermons. In 1822, he visited Europe, and made the acquaintance of several great English authors, such as Wordsworth and Coleridge, both of whom were strongly impressed in his favor. Coleridge said of him: 'He has the love of wisdom and the wisdom of love.' In 1823, he published an *Essay on Natural Literature*; in 1826, *Remarks on the Character and Writings of John Milton*; in 1829, the *Character and Writings of Fénelon*; in 1835, a work in opposition to *Negro Slavery*; in 1838, an essay on *Self-culture*. Besides these, he wrote a variety of essays and treatises, all characterized by vigor, eloquence, pure taste, and a lofty moral earnestness. He died at Bennington, Vermont. His nephew, William Ellery C., b. 1818, has been a journalist and poet. An interesting memoir of Dr. C. has been published by his nephew, William Henry C. (3 vols., London, 1848).

CHANNING, WILLIAM HENRY: 1810, May 25—1884, Dec. 23; b. Boston; son of Francis Dana C., and nephew of William Ellery C. He graduated at Harvard 1829, and at the Cambridge Divinity School 1833. Was Unitarian pastor at Cincinnati and elsewhere, and became leader in the Christian socialism movement. He was an eloquent platform orator, a frequent writer for the press, and a theologian of much more advanced and mystical type than his uncle. He succeeded James Martineau at Hope St. Chapel, Liverpool, 1857, took a charge at Washington 1862, gave up his church for a military hospital, and became chaplain of the house. Besides writing for the *North Amer. Review*, the *Dial*, the *Christian Examiner*, etc., he translated Jouffroy's *Introduction to Ethics* (1840), published a memoir of his famous uncle in 3 vols. (1848), one of his cousin, James H. Perkins, and with Emerson and James Freeman Clark, that of Margaret Fuller Ossoli (1852). His later years were spent in England, where his son is a member of parliament, and his daughter was wife of the poet Edwin Arnold. He died in London. His life, by O. B. Frothingham, appeared 1886.

CHANSON, *shān'sōn* [F. *chanson*, a song — from L. *cantiōnem*, a song]: in *OE.*, a song.

CHANT, n. *chānt* [F. *chanter*—from L. *cantārē*, to sing: comp. Gael. *can*, to sing; *cainnt*, speech]: a song; a melody; words recited to musical tones in church service: V. to sing; to intone the words of a hymn or psalm, as in church service; to make melody with the voice. CHANT'ING, imp. CHANT'ED, pp. CHANT'ER, n. masc. a male who; that part of a bagpipes on which the different notes are formed. CHANT'RESS, n. fem. a female who. CHANT'ICLEER', n. *-i-klēr'* [*chant*, and *clear*—lit., clear-singing: L. *canticulāriūs*, a singer or chanter]: a cock, from the loudness and clear-

CHANT—CHANTREY.

ness of his tones. CHANTRY, n. *chānt-rī*, a chapel endowed for the saying or singing of masses for the souls of donors or founders. HORSE CHANTER, or CHAUNTER, in *slang*, one who purchases worthless and worn-out horses, and disposes of them again as sound and good by frauds and tricks.

CHANT: a species of song, between air and recitative, suited to the Psalms and other parts of church service not metrically arranged, commended by its dignity and simplicity. It was used by the primitive Christians, as exhorted by the apostle Paul and reported by Pliny the younger, and increased in vogue as the new religion made headway. Pope Sylvester founded a school of chanting abt. 330; St. Ambrose adapted a new variety of C. from the old Greek music, and Pope Gregory the Great brought in another arrangement, which with some modifications is still in use. Of three kinds of C. which exist in theory, monody, antiphony, and choral, only the last two are familiar. Intoning, practiced by some Episcopal clergy in reading the service, and cantillation, known in Jewish synagogues, are a sort of half chanting: see AMBROSIAN CHANT: GREGORIAN CHANT.

CHANTAL, *shōng-tāl'*, JEANNE FRANÇOISE FRIMIOT, Baroness DE: 1572–1641; b. Dijon, France: dau. of a pres. of the Dijon parliament. She married Christophe de Rabutin-Chantal, and on his death 1600, took a vow not to marry again, but gave herself to her children and to charitable labors. Having chosen St. Francis de Sales for her director 1604, she founded the Convent of the Visitation at Annecy 1610. Her later days were devoted to this order, which at her death had 87 houses, and 60 years later 150 houses with 6,600 inmates. C. died at Moulins, was beatified 1751, and canonized 1767 by Clement XII. Her life and letters were published at Paris 1779. Her son was the father of Mme. de Sévigné.

CHANTILLY, *shān-tē-lē* or *shōng-tē-yē'*: town of France, dept. of Oise, about 23 m. n.n.e. of Paris. It is one of the most beautiful places in the vicinity of the metropolis, and attracts immense numbers of visitors. Apart from its natural beauty, it is interesting as the place where the great Condé spent the latter years of his life in the society of such men as Boileau, Racine, and Bossuet. The magnificent château in which he resided was pulled down at the revolution of 1793; but a lesser château, one of the finest specimens of the Renaissance in France, remains. The park and grounds are very charming. C. is noted for its extensive manufacture of the *blonde* lace. Pop. 4,000.

CHANTILLY, *shān-tē-lē*, BATTLE OF: 1862, Sep. 1, in Fairfax Co., Va., about 20 m. w. of Washington. Gen. Pope's right wing was attacked by the Confederates under Jackson. A severe thunderstorm failed to interrupt the fight, which lasted till dark, though the results were not of great moment. It occasioned to the Union army a great personal loss: Gens. Philips Kearney and I. I. Stevens were killed here.

CHANTREY, *chān'trī*, Sir FRANCIS: 1781 (not 1782 as

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has been generally said)—1841, Nov. 25; b. Jordanthorpe, Derbyshire: Eng. sculptor. His father, who was a carpenter, and rented a small farm, died when C. was only 12 years of age, leaving his mother with very little for support. It is said that she gave him ‘as liberal an education as her limited means would admit;’ but much cannot be meant by the phrase, if it be true, as asserted by Holland in his *Memorials*, that his attendance at the little lane-side school was very irregular, and that ‘for a while he certainly drove an ass daily, with milk-barrels, between Norton and Sheffield.’ C.’s mother married a second time, and the boy was, in 1797, apprenticed for seven years to a carver and gilder in Sheffield called Ramsay. It was in this humble department that C. acquired the rudiments of his future art. It was during this period that his first attempts at modelling in clay were made, and that by the help of casts taken from the faces of his fellow-apprentices and his own, he began the work of portraiture, in which his great eminence ultimately consisted. C.’s apprenticeship was cancelled two years before its expiry; but his subsequent career is not accurately known. It is certain that he visited both London and Dublin in 1802, probably in the capacity of a journeyman carver and gilder; and in that year he seems to have received instruction as a pupil of the Royal Acad. It was probably then that he commenced serious preparation for the work of his life. In the earlier part of his career as an artist C. is said to have been under great obligations to Nollekens, who had the shrewdness to see, and the generosity to see without envy, his great promise in the branch in which he himself was eminent. In 1816, C. was elected an associate, and in 1818, a member of the Royal Acad.; and in 1819 he visited Italy for the first time. Like the lives of many other eminent men, that of C. presents few claims on our interest after his early struggles were ended. As an ideal artist he never attained high rank, and, in comparison with Flaxman, he had little reputation in this country and none abroad. But he executed with much truth to nature, as it presented itself to his eye, an endless variety and almost countless number of works of individual portraiture, so that there is scarcely any town of importance in Great Britain which cannot show specimens of his skill. As a result of his diligence in this department of art C. accumulated considerable property, the greater part of which, after providing for his widow, he bequeathed for artistic purposes. In this respect, he formed a remarkable contrast to Flaxman, whose modest savings were sworn under £4,000, while Nollekens, whose name is almost forgotten, realized the enormous sum of £150,000—it is even said £200,000. C. died childless, and was buried in a tomb prepared by himself at Norton. Lady C. died 1875, Jan., and the interest of her husband’s gift to the Royal Acad., amounting to about £3,000 a year, is now at the disposal of the council, for the ‘promotion of British art.’

CHANTRY, *chānt'rī*: term applied alike to endowments or benefices to provide for the chanting of masses, and to

CHANZY—CHAOS.

the chapels in which the chanting takes place. These endowments were commonly made in the form of testamentary bequests, the object being to insure the erection of a chapel near, or over the spot where the testator was buried, and to remunerate the priests for saying masses in it for the benefit of his soul, or of the souls of the others named in his will. Many such chantry chapels are still seen in English parish churches; but they were more common in abbeys and monastic establishments, in which it was considered a privilege to be buried, and where some such offering to the brotherhood was in a measure the price of sculpture. These chapels which have generally the tomb of the founder in the middle are separated from the aisles or nave of the church by open screen-work, a circumstance which has sometimes led to their being called chancels (q.v.). Sometimes, again, they are separate erections, projecting from the church externally; but in cathedrals and the larger churches they are generally constructed within the church, often between the piers. Many chantries are lavishly enriched with sculpture and tracery of all descriptions, and some of them are adorned with gilding and painting. The term C. is sometimes applied to small memorial chapels of recent construction attached to Prot. churches.

CHANZY, *shōng-zē'*, ANTOINE EUGENE ALFRED: 1823, Mar. 18—1883, Jan. 4; b. Nouart, Ardennes: French general. At the age of 15 he became cabin-boy on a man of war, but afterward studied at the Acad. of St. Cyr. After some service under Canrobert, he was made lieut.col. at Solferino 1859, and brig.gen. in Algeria 1868. In the war with Prussia he commanded a division of the army of the Loire. He attacked before Orleans with some success 1870, Dec. 1, but on the two following days was driven back. As commander of the second army of the Loire, he attempted to cover Tours, but met a complete defeat before Le Mans 1871, Jan. 12, and declared further resistance useless. He vindicates his course in *La deuxième armée de la Loire*, 1871. C. became a member of the national assembly, and leader of the left centre at Bordeaux and Versailles, commander of the 7th army corps at Tours 1872, gov.gen. of Algeria 1873, senator 1875, ambassador to St. Petersburg 1879–81, and 1882 commander of the 6th army corps at Châlons, where he died.

CHAOS, n. *kā'ōs* [L. and Gr. *chāōs*, a yawning gulf, immense void: comp. Gael. *céo*, a dense fog]: the confused mass in which this earth is supposed to have existed prior to its being made a fit habitation for man; any mixed and confused mass; confusion; disorder; a state of bewilderment and confusion of mind. **ЧАОТ'ИК**, a. *-ōt'ik*; confused; thrown together into a vast heap without any order or arrangement. In the ancient cosmogonies, chaos signified that vacant infinite space out of which sprang all things that exist. Some poets make it the single original source of all; others mention with it Gaea, Tartaros, and Eros. By some also only the rough outlines of heaven and earth were

CHAOS—CHAP BOOKS.

supposed to have have proceeded from C., while the organization and perfecting of all things was the work of Eros. Still later cosmogonists, such as Ovid, represent it as that confused, shapeless mass out of which the universe was formed into a *kosmos*, or harmonious order. Hesiod makes C. the mother of Erebus and Nox.

CHAOS, *shá'os*, or BIRD ISLANDS: several rocky islets at the entrance of Algoa Bay, s. Africa, about 35 m. e. of Port Elizabeth. On one of these islands Bartholomew Diaz, navigator, died 1500.

CHAOU-CHOW-FOO, *chá'ō-chōw-fó'*: city of China, cap. of a dept. of the same name, province of Kwang-tung; in $23^{\circ} 36' 6''$ n. lat., and $0^{\circ} 46' 40''$ long. w. of Pekin.

CHAOU-KING-FOO, *chá'ō-kíng-fó'*: city of China, cap. of a dept. of the same name, province of Kwang-tung; 50 m. w. of Canton; in $23^{\circ} 4' 48''$ n. lat., and $4^{\circ} 24' 30''$ long. w. of Pekin.

CHAP, n. *chăp* [Scot. *chap*, to strike: Dut. *kappen*, to cut, to prune: W. *cobio*, to strike]: a gap or chink; a crack in the hands or feet; a stroke; a blow: V. to split; to crack, as the hands or feet; to open in long slits. CHAP'PING, imp. CHAPPED, pp. *chăpt*. CHAP'PY, a. -*pī*, full of chaps: see CHAPPED HANDS and CHILBLAINS.

CHAP, n. *chōp* [OE. *chuff*, fat, full-bodied: AS. *ceaplas*, the chaps, the jaws: Icel. *kjaptr*; Sw. *kaft*, the jaw]: the jaw, applied to animals.

CHAP, v. *chăp* [AS. *ceapian*; Dut. *koopen*, to buy: Icel. *kaupa*, to sell (see CHEAP and COPE)]: in OE. and Scot.; to make a bargain by striking hands; to buy and sell; to trade: N. trade; a familiar term for a man or boy. CHAPMAN, n. [AS. *ceapman*—from *ceáp*, cattle, trade; *man*, a man: Ger. *kaufman*; Icel. *kaupmather*, a merchant]: a merchant who attends fairs; a pedler; a hawker. CHAP-BOOK, n. a small book printed for being sold by chapmen or hawkers at a cheap rate.

CHAPALA, *chá-pá'lá*: largest lake in Mexico; about 1,300 sq. m. It is about lat. $20^{\circ} 20'$ n., and ranges in w. long. from 102° to $103^{\circ} 25'$. It is merely an expansion of the Rio Grande de Lerma, which enters the Pacific at San Blas. C. lies on the table-land of Anahuac, and has many islands.

CHAPARRAL, or CHAPARAL, n. *chăp-ar-ră'l'* [Sp.—from *chaparra*, *chaparro*, an evergreen oak, of Iberian origin]: a thicket of low evergreen oaks; thick bramble-bushes entangled with thorny shrubs in clumps.

CHAP BOOKS, *chăp' bùks*: a variety of old and now scarce tracts of a homely kind, which at one time formed the only popular literature. In the trade of the book-seller, they are distinguishable from the ordinary products of the press by their inferior paper and typography, and are reputed to have been sold by chapmen (see CHAPMAN) or peddlers; hence their designation. The older C. B. issued in the early part of the 17th c. are printed in black letter, and are in the form of small volumes. Those of a later date are

CHAPE—CHAPEL.

in the type now in use, but equally plain in appearance. Of either variety they were printed mostly in London; many being without dates. They were of a miscellaneous kind, including theological tracts, lives of heroes, martyrs, and wonderful personages, interpretations of dreams, fortune-telling, prognostications of the weather, stories of giants, ghosts, hobgoblins, and witches, histories in verse, and songs and ballads. See *Notices of Fugitive Tracts and Chap Books*, also *Descriptive Notices on Popular English Histories*; both by J. O. Halliwell, printed for the Percy Soc. An inferior class of tracts succeeded these books for the common people, and are best known as *Penny Chap Books*. For the most part they consisted of a single sheet, duodecimo, or 24 pages. Besides the title the first page usually contained a coarse wood-cut embellishment. The paper was of the coarsest kind adapted for printing, and the price, as the name imports, was a penny each. The subjects, besides being of a similar nature to the above, included stories of roguery and broad humor. These penny C. B. were issued by an obscure class of publishers in London and several English provincial towns, especially Newcastle-on-Tyne. They were issued also from the presses of Edinburgh, Glasgow, Falkirk, and Paisley. It is a curious fact that nearly all the penny C. B. of this very homely kind which were latterly popular, were written by Dougald Graham, who, previous to his death 1779, filled the office of bellman or town-crier of Glasgow. The most reputable production of this humble genus was a *History of the Rebellion* in a hudi-brastic metre, which was a great favorite with Sir Walter Scott, and is now scarce; see *Chambers's Journal*, First Series, vol. x., p. 84; also the *Paisley Magazine* (1829), an extinct publication of great rarity, in which is given a biographic sketch of Dougald Graham, with a list of his productions. In some parts of Scotland and the n. of England Graham's penny C. B. are still seen on stalls at markets; but the general advances in taste, and the diffusion of an improved literature, have displaced them in almost all other quarters. Collections of the older C. B. are now found only in the libraries of bibliomaniacs, by whom they have been picked up at extravagant prices from dealers in second-hand books. In various continental countries, there are numerous varieties of C. B. at exceedingly small prices. The French government, being desirous to substitute a wholesome class of tracts of this kind for what are generally objectionable on the score of taste and morality, have latterly, through commissioners, taken some steps on the subject. See Ashton's *Chap-Books of the 18th Century* (1882); Nisard's *Histoire des Livres Populaires*.

CHAPE, n. *chāp* [F. *chape*; It. *chiappa*; Sp. *chapa*, a small plate of metal]: a metal plate at the end of a scabbard; a catch by which a thing is held in its place.

CHAPEAU, n. *shăp-pō'* [F.]: a hat; a cap or head-dress.

CHAPEL, n. *chăp'ēl* [F. *chapelle*—from mid. L. *capel'la*, a hood, the canopy or covering of an altar where mass was

CHAPEL—CHAPIN.

celebrated—afterward extended to the recess in a church in which an altar dedicated to a saint was placed]: a subordinate place of public worship; a church; a dissenter's meeting-house; *among printers*, the body of workmen in a printing office—said to be so named from the first printing-office having been established by Caxton in a chapel of Westminster Abbey. CHAPEL MEETING, a meeting held in the printing office for the consideration of trade and other questions affecting the interests of the workmen in said office. CHAP'ELRY, n. -rī, the bounds assigned to a chapel. CHAPEL-OF-EASE, a chapel erected in a large parish to afford additional accommodation for worship to parishioners. CHAPEL-ROYAL, a body of clergy and lay clerks ministering at the court of a Christian monarch; the place of worship in which these officiate. There are several such churches in England, as at St. James' palace, at Whitehall, and at Windsor.

CHAPEL, chāp'el: a building erected for the purposes of public worship, but not possessing the full privileges and characteristics of a church. In this sense, all places of worship erected in England by dissenters are now called chapels, and the term is applied also to supplementary places of worship, even though in connection with the established church—such as parochial chapels, chapels of ease, free chapels, and the like. In former times, it was applied either to a domestic oratory, or to a place of worship erected by a private individual, or a body corporate. In the latter sense, we speak of chapels in universities and colleges. But its earliest signification was that of a separate erection, either within or attached to a large church or cathedral, separately dedicated, and devoted to special services. See CHANTRY. Chapels had no burying-ground attached to them, and the rite of baptism was not usually administered in them.

CHAPELLE, LA, lá shā-pěl': name of several places in France, the most important of which forms a northern suburb of Paris, where chemicals, salt, starch, liqueurs, etc., are manufactured.

CHAPELLE DE FER: see HELMET.

CHAPERON, n. shāp'er-ōng [F. *chaperon*, a hood—from mid. L. *cappa*, a hooded cloak: It. *capperone*, a cloak worn by peasants]: *anciently*, a hood or cap worn by knights of the garter, at one time in general use, afterward appropriated to doctors and licentiates in colleges; an elderly female friend attendant on a young lady in public (perhaps from the hood being then worn); any attendant and guide; a device placed on a horse's head at pompous funerals: V. to attend as a guide or protector. CHAP'ERONING, imp. -ōn-ing. CHAP'ERONED, pp. -ōnd. CHAP'ERONAGE, n. -ōn-āj patronage or protection afforded by a chaperon.

CHAPFALLEN, a. chōp'fawln [*chap*, the jaw, and *fallen*]: having the lower jaw depressed; dejected; dispirited; silenced.

CHAPIN, chā'pīn, CHESTER W.: 1798, Dec. 16—1883;

CHAPIN—CHAPLAIN.

b. Ludlow, Mass. The son of a poor farmer, he rose by his own exertions, joined Horatio Sargent in managing stage-lines in the Connecticut valley, then acquired control of the steamboat traffic between Hartford and Springfield, and finally interested himself in railroads, becoming connected with several, and being for many years pres. of the Boston and Albany railroad. His residence was at Springfield, Mass.

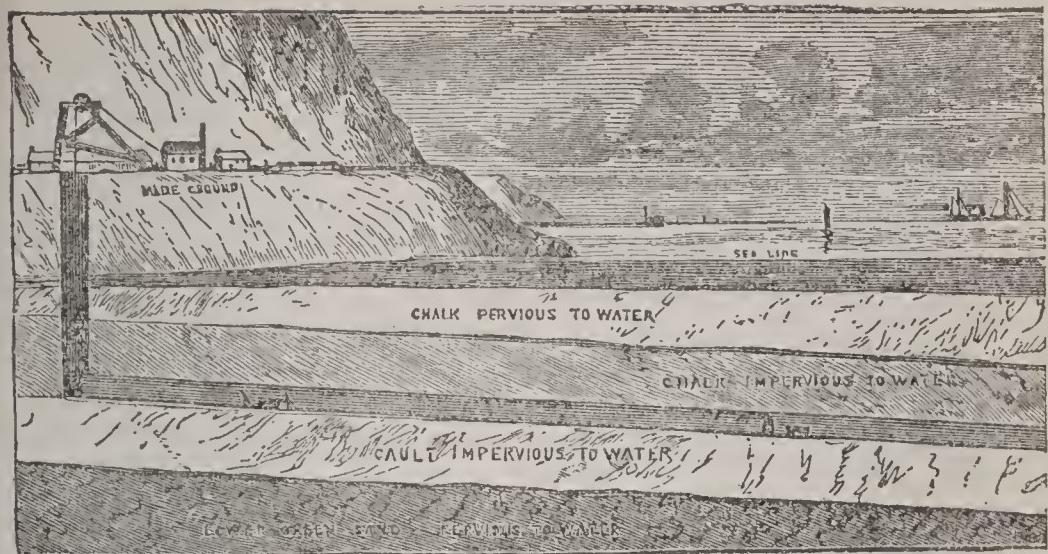
CHAPIN, EDWIN HUBBELL, D.D., LL.D.: 1814, Dec. 29—1880, Dec. 27; b. Union Village, Washington co., N. Y. He was taken in childhood to Bennington, Vt., and studied in a seminary there. After reading law at Troy and editing the *Magazine and Advocate*, he entered the Universalist ministry, 1837, and took a charge at Richmond, Va. He was pastor at Charlestown, Mass., 1840–46, at School Street, Boston, as colleague of Hosea Ballou, 1846–48, and from that date in New York. Beginning near the City Hall park, his flock grew apace, and after several removals became the Church of the Divine Paternity at 5th avenue and 45th street. A brilliant preacher and lecturer, Dr. C. was long the greatest religious attraction of the pulpit in and about the metropolis, after Henry Ward Beecher; as with Mr. Beecher, his eloquence was the outcome of a vivid imagination and warm and genial sympathies. He was a delegate to the Peace Congress at Frankfort, 1850, an earnest opponent of slavery, a vigorous supporter of the Union, and an advocate of every solid phase of progress and reform. He edited the *Christian Leader* from 1872. His many publications, gathered chiefly from his sermons and lectures, include *Hours of Communion* (New York, 1844); *Discourses on the Lord's Prayer* (1850); *Characters in the Gospels* (1852); *Moral Aspects of City Life* (1853); *Discourses on the Beatitudes* (1853); *Humanity in the City* (1854); *True Manliness* (1854); *Duties of Young Men* (1855); *The Crown of Thorns* (1860); *Living Words* (1861); *The Gathering*, memorial of a family assemblage, Springfield, Mass. (1862); *Providence and Life*; and *Discourses on the Book of Proverbs*. He wrote a few lyrics, some of which appeared in *Hymns for Christian Devotion* (Boston, 1846), compiled by himself and J. G. Adams, and for many years the most widely used of Universalist collections. His degree of S.T.D. was conferred by Harvard, 1856, and that of LL.D. by Tufts College, 1878. He died in New York, after long illness and vain efforts to regain his health by foreign travel. Dr. C.'s Christian devotedness and evangelical spirit gained almost universal recognition.

CHAPITER, n. *chāp'i-ter* [OF. *chapitel*; It. *capitello*—from L. *capitel'lum*, a dim. of *caput*, the head]: the upper part or capital of a pillar.

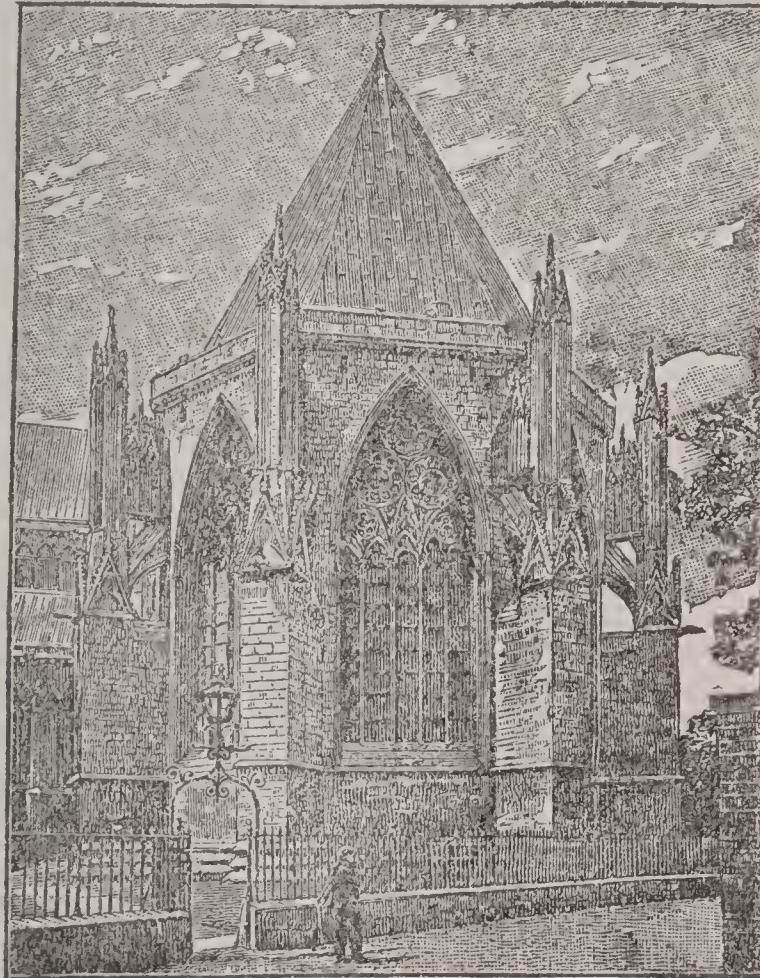
CHAPLAIN, n. *chāp'līn* [F. *chaplain*; It. *cappellano*, chaplain—from mid. L. *capella*, a hood (see CHAPEL)]: a originally the title of the ecclesiastic who accompanied an army, and carried the relics of the patron saint: see CHAPEL. It has now come to signify a clergyman not having charge of a parish, but employed to officiate at court, in

PLATE 11.

Channel
Chapter-house



Section of the Bed of the English Channel, showing the proposed tunnel.



Chapter-house, York.

CHAPLAIN.

the household of a nobleman, or in an army, garrison, ship, etc. Such officials began early to be appointed in the palace of the Byzantine emperors. The practice afterward extended to the western empire, and to the courts of petty princes and even of knights, and continued after the reformation. 48 clergymen of the Church of England hold office as chaplains of the queen in England, four of whom are in attendance each month. Six clergymen of the Church of Scotland have a similar title in Scotland; but their only duty is to conduct prayer at the elections of Scottish representative peers. A statute of Henry VIII. limits the right of nominating private chaplains in England: thus, an archbishop may have eight, a duke six, a baron three; and chaplains so appointed have certain privileges, and may hold two benefices with cure of souls.

CHAP'LAINCY, -*sī*, and CHAP'LAINSHIP, n. the officc, station, or business of a chaplain.

ARMY CHAPLAIN in Great Britain.—There have been such chaplains for many generations, and the office was at one time regarded as a salable perquisite; but the system was reorganized and improved in 1796. In recent years, Rom. Cath. and dissenting Prot. chaplains also have been appointed, which indicates the progress of toleration. The chaplains belong, not to *regiments*, but to the staff of the army, so as to be generally available. At home, they are attached to the military stations; but in the field they are located at headquarters, at the hospitals, and with the divisions. The officers at the stations usually arrange for the men to attend divine service at the nearest parish church; but this still leaves the chaplains many duties to fulfil. Where, as sometimes happens, there is no regular church or chapel near at hand, the C. reads and preaches to as many men as can conveniently group themselves around him at one time, and thus serves many different congregations at different times of the Sunday. He visits the sick at the hospitals, and examines and encourages the regimental schools. Among the wooden huts at Aldershot camp, a church has been built, which is rendered available for chaplains of different religious denominations in succession.—The *Chaplain-general*, who receives £1,000 per annum, has duties partaking somewhat of those of an archdeacon. He assists the war office in selecting chaplains, and in regulating the religious matters of the army, so far as the Church of England is concerned. His office forms one of the eight departments under the new organization of the war office. There are 86 chaplains on the staff, besides officiating clergymen (not belonging to the army), and chapel-clerks. The commissioned chaplains receive from 10s. to 22s. 6d. per day, besides allowances; and there are always some on half-pay; while the officiating clergymen receive head-money for the troops attending their ministrations. The whole expenditure for chaplains, and other charges connected with divine service, figures in the army estimates at near £57,000 annually.

NAVY CHAPLAIN in Great Britain.—Every ship in commission, down to and including fifth-rates, has a *chaplain*.

CHAPLET—CHAPMAN.

The navy estimates provide for above 70 commissioned chaplains, at stipends varying from £219 to £401 per annum. The chaplains perform divine service at stated times on shipboard, visit the sick sailors, and assist in maintaining moral discipline among the crew.

CHAPLAIN, in the United States.—Clergymen bearing this official name are attached to the houses of congress, to the legislatures of most states, to each regiment and each army post of sufficient size, to the larger vessels of the navy, and to many prisons, reformatories, almshouses, etc. In the more extensive of these institutions, where the inmates are of different religious affiliations, two (or probably more) chaplains, Rom. Cath. and Prot., are sometimes provided. During the first year of the civil war, each volunteer regt. being allowed a C. who was paid, like the other officers, by the general government, laymen occasionally occupied the place; but this irregularity was soon corrected by legislation requiring evidence of clerical standing. Universities and colleges are often, though not always, furnished with a C. or pastor; in a majority of such cases, his somewhat vague duties are eked out by those of a professorial chair, not always wholly theological.

CHAPLET, n. *chāp'lēt* [F. *chapelet*, a wreath, a rosary—from OF. *chapel*, a head-dress—from *chape*, a cope—from mid. L. *capa*, a hooded cloak]: a garland or wreath encircling the head; a string of beads, called a paternoster or rosary, used by Roman Catholics to keep count of their prayers—so named as resembling the wreaths or crowns of flowers placed on the head of the Virgin; in French, the *chaplet de roses* = a chaplet of roses, shortened in *rosaire* or rosary; a little molding carved into beads, etc. A C. in heraldry is always composed of four roses, the other parts being leaves.

CHAPMAN, n. *chāp'man* [A.S. *ceap-man*, a merchant (see CHEAP, and CHAP 3)]: trader, but popularly applied in a more limited sense to a dealer in small articles, who travels as a pedler or attends markets. See CHAP-BOOKS.

CHAPMAN, *chāp'man*, GEORGE: 1557–1634: dramatist and translator. He was educated at Cambridge and Oxford, and was contemporary and friend of Spenser, Jonson, and Shakespeare. His first play, *The Blind Beggar of Alexandria*, was printed 1598. Until 1620, he supplied the theatre with tragedies and comedies, and some of these, after the fashion of the time, were written in conjunction with other dramatists. As a writer for the stage, C. does not rank high. Despite many nervous passages, his plays lack the irradiation of a constant genius, and his characters are unnatural. His translation of Homer is the most vigorous yet executed in England, and in reading it, many have felt with Keats—

Like some watcher of the skies
When a new planet swims into his ken.

C. seems to have led a long, temperate, and happy life, unblasted by poetic fire. Swinburne, the poet, published an ed. of C.'s works, with critical introduction, 1875.

CHAPPED HANDS—CHAPTER.

CHAPPED HANDS, *chăpt* or *chopt*, and CHILBLAINS, *chil'blānz* [see CHAP 1]: a less and greater form of disease of the skin, produced by undue exposure to extremes of cold and heat, and affecting chiefly the most exposed joints, the skin over which swells and cracks, with itching, pain, and heat; in the most severe cases there is ulceration, difficult to heal in proportion to the length of time the disease has been neglected. Chilblains may generally be avoided if the hands are washed always with tepid water, and not habitually exposed to great cold, or when cold, to the heat of a fire. When formed, these diseases may be treated with oxide of zinc ointment; or with a dilute solution of borax in glycerine and water; or with glycerine alone, slightly diluted with water, the hands being in any case habitually covered with woolen gloves in cold weather.

CHAPPY: see under CHAP 1.

CHAPS, or CHOPS, n. plu.: the jaws: see CHAP 2.

CHAPSAL, *sháp-sál'*, CHARLES PIERRE: 1787–1858; b. Paris: grammarian. With F. J. Noel he prepared a *Nouvelle grammaire française, avec exercices* (1823): this in 25 years was widely adopted and went through over 40 editions. Enriched by his publications, C. bought the Château de Polangis, spent much on charity, and bequeathed 80,000 francs to the teachers in the environs of Paris.

CHAPTAL, *sháp-tál'*, JEAN ANTOINE, Count of Chanteloup: 1756, June 4—1832, July 30; b. Nogaret, Lozère: French chemist and statesman. He studied at the Montpellier school of medicine, returned there 1781, to take the new chair of chemistry, and taught the doctrines of Lavoisier as against those of Stahl. Enriched by an uncle's death, he set up works to manufacture mineral acids, alum, white lead, soda, etc. The govt., in recognition of his labors, ennobled him. He was arrested for a *Dialogue entre un Montagnard et un Girondin*, but soon released, and for a time (1793) managed the saltpetre works at Grenelle. At the end of the century, Napoleon made him a councilor of state. Succeeding Lucien Bonaparte as minister of the interior, he established a chemical manufactory near Paris, a school of arts, and a society of industries; reorganized the hospitals, introduced the metric system, and in various ways promoted the cause of science. Napoleon made him treasurer to the senate, and, 1814, director-gen. of commerce and manufactures and a minister of state. Though for a time erased from the list of peers, he was named a member of the Acad. of Sciences by Louis XVIII, 1816. He died in Paris.

CHAPTER, n. *chăp'tér*. [F. *chapitre*; OF. *chapitle*—from L. *capit'ūlum*, a small head—from L. *caput*, the head: It. *capitolo*, head or division of a book]. the division of a book distinctly marked off with a heading, and numbered; an assembly of the dean, canons, and prebendaries, or of the dean and canons residentiary alone, attached to a cathedral, usually styled *Dean and Chapter*. To THE END OF THE

CHAPTER-HOUSE—CHAR.

CHAPTER, to the end or finis; to work out and complete thoroughly.

CHAPTER-HOUSE [see CHAPTER]: building in which the monks and canons of monastic establishments, and the dean and prebendaries of cathedral and collegiate churches, meet for management of the affairs of their order or society: see CATHEDRAL. Chapter-houses frequently exhibit most elaborate architectural adornment; for instance, those at York, Southwell, and Wells. The original stained-glass windows remain at York, and are of exquisite beauty. On the walls of that at Westminster, the original painting has been discovered. Chapter-houses are of various forms. Those at York and Westminster are octagonal; those at Oxford, Exeter, Canterbury, Gloucester, etc., are parallelograms; Lichfield is an oblong octagon; Lincoln, a decagon; and Worcester, a circle. They are always contiguous to the church, and are generally placed w. of the transepts. They generally either open into the church, or are entered by a passage. Chapter-houses were often used as places of sepulture, and have sometimes crypts under them, as at Wells and Westminster.

CHAPTRAL, n. *chāp'trēl* [L. *caput*, the head (see CHAPTER)]: a pillar with a little chapter; the upper part of a pillar that supports an arch.

CHAPU, or CHAPOO, *chā-pō'* or *shā-pō'*: maritime town of China, province of Che-keang, 50 m. n.w. of Chinhai. It is the port of Hangchow, and connected therewith by canal. C. has a circuit of about 5 m., exclusive of its suburbs. A wall separates the Tatar quarter from the rest of the town. It was much injured by the British, 1842, but not held by them. It was formerly the only Chinese port trading with Japan. The surrounding region is one of the richest and best cultivated in China.

CHAPULTEPEC, *chā-pōl-ta-pēk'*: fortress, 2 m. s.w. of the city of Mexico, built on a rock nearly 200 ft. high. In 1847 it was heavily armed, contained a military school and a strong garrison under Gen. Bravo, and defended the approach to the city. Gen. Scott, Sep. 8, stormed Molino del Rey, an old powder-mill at its rear, cannonaded C. from an opposite ridge, Sep. 12, and took it by an attack in two columns, Sep. 13, with slight loss to the assailants.

CHAR, n. *chár* [Gael. *cear*, *ceara*, blood, blood-colored] an esteemed fish, inhabiting mountain lakes. See CHARR.

CHAR, v. *chár* [AS. *cerran*, to turn: OE. *caire*, to turn, to char; *caireden*, charred: F. *charrée*, ashes]: to turn wood to coal; to burn to a black cinder; to blacken wood by exposure to fire; to reduce wood to coal or carbon by burning it slowly under cover. CHAR'RING, imp. CHARRED, pp. *chárd*: ADJ. burnt to a black cinder. CHAR'COAL, n. *-kōl*, wood burnt into carbon, or made black all through like coal. ANIMAL CHARCOAL, lamp-black derived from oils and fat. WOOD-CHARCOAL, twigs and fagots charred. MINERAL CHARCOAL, or COKE, ordinary pit-coal charred.

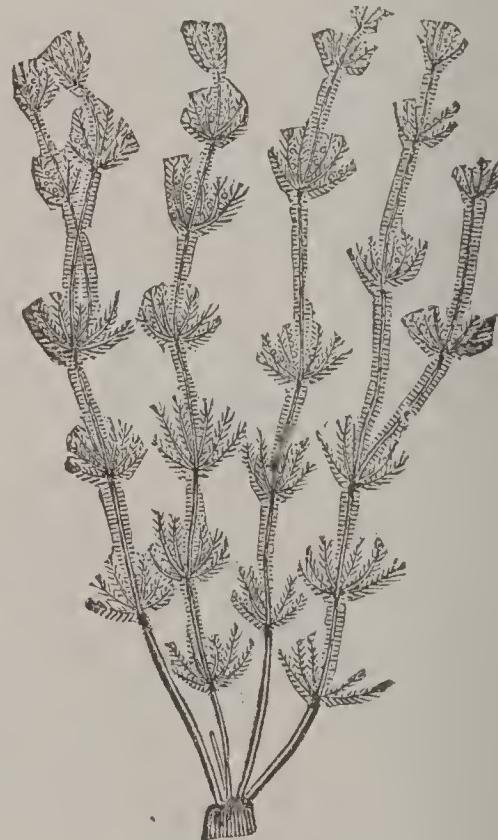
CHAR, or CHARE, n. *chär* [AS. *cyre*, a turn. AS. *cerran*:

CHARA—CHARACEÆ.

Dut. *keeren*, to turn: Gael. *car*, a turn, a twist]: work done by the day; a single job: V. to work at the house of another by the day; to do jobs. CHARING, imp. CHARED, pp. *chärd*. CHAR-WOMAN, a woman that works by the day, an occasional servant.

CHARA, n. *kā'rā* [Gr. *chaîro*, I. am glad—alluding to their habitat]: in bot., the generic name for the brittle-worts, water-weeds intermediate between the algæ and the mosses.

CHARACEÆ, *ka-rā'sē-ē* [see CHARA]: aquatic plants, forming, according to some botanists, a distinct nat. ord. of acotyledonous plants; according to others, a sub-order of *Algæ*. Their stems are tubular, consisting either of a single tube, or of parallel tubes, a central one with smaller ones applied to its surface; they are either pellucid or incrusted with carbonate of lime, which is not to be regarded as a mere accidental incrustation, but belongs to their proper structure; and they have whorls of symmetrical tubular branches. They grow in stagnant waters, both fresh



Chara Vulgaris.

and salt, are always submersed, and often completely conceal muddy bottoms. A number of species are natives of Britain. The organs of reproduction are of two kinds—lateral *globules*, and axillary *nucules*. These organs have caused no little difficulty to botanists; the nature and use of the globules in particular being not understood. The simple cellular structure of the C., apart from all consideration of their reproductive organs, associates them with the lower *Algæ*, rather than with phanerogamous plants.

CHARACINIDÆ—CHARACTER.

None of them is of any known use. It was in the C. that the beautiful phenomena of *Cyclosis* (q.v.) were first observed. Sir David Brewster discovered that each of the minute calcareous particles incrusting the C. possesses double refraction, and has regular neutral and depolarizing axes.

Fossil Characeæ.—The calcareous incrustation which covers the organs of reproduction, as well as the stems of some C., has, from its power of resisting decomposition, caused the abundant preservation of this order in the Tertiary fresh-water strata. The nucules originally described under the name of *gyrogonites*, and supposed to be foraminiferous shells, have been noticed by E. Forbes in strata as old as the Middle Purbeck beds. No remains of these have been observed in newer deposits, until they are found in the Tertiaries. The nucules, associated with *Lymnaea* and *Planorbis*, are very abundant in the Eocene Bembridge beds (q.v.).

CHARACIN'IDÆ: see SALMONIDÆ.

CHARACTER, n. *kär'æk-tér* [Gr. *charaktér*; L. *charakter*, an engraved mark: F. *caractère*]: a mark cut on any thing; a mark or figure to represent a sound, as a letter or a note in music; manner of writing, speaking, or acting; peculiar qualities in a person good or bad; an account or representation of the qualities of a person or thing; moral excellency; the qualities supposed to be impressed on a person by his post or office; a personage in a play representing some qualities of another, real or supposed; strongly marked differences of power, as, he has a good deal of *character*; reputation: V. to inscribe; to engrave. CHAR'ACTERING, imp. CHAR'ACTERED, pp. -*terd*. CHAR'ACTERIZE, v. -*iz*, to describe by peculiar qualities; to mark with a particular stamp; to distinguish. CHAR'ACTERIZING, imp. CHAR'ACTERIZED, pp. -*izd*. CHAR'ACTERIZA'TION, n. -*iz-zü'shün*, the act of characterizing. CHAR'ACTERIS'TIC, n. -*is'tik*, that which distinguishes a person or thing from another: ADJ. applied to the principal letter of a word, retained in all its derivatives and compounds, or nearly all. CHAR'ACTERIS'TIC, a., and CHAR'ACTERIS'TICAL, a. -*ti-käl*, that marks the peculiar and distinctive qualities of a person or thing. CHAR'ACTERIS'TICALLY, ad. -*li*. CHAR'ACTERLESS, a. without any character; destitute of any distinguishing peculiarity. CHARACTS, n. plu. *kär'ækts*, in *OE.*, affected qualities; descriptions. — SYN. of 'character, n.': stamp; aspect; nature; kind; sort; assortment; species; genus; form; cast; order; air; mold; shape; — of 'characterize': to distinguish; designate; depict; mark; describe; entitle.

CHAR'ACTER: something engraven on an object, either physically by the action of another external object, or morally by the passions, the affections, by good or evil fortune, and by what are designated generally as 'circumstances.' In art, the expression of C., either in animate or inanimate objects, is, after correct delineation, the most important matter to be attended to. Though, properly speaking, all distinguishing marks are included under it,

CHARACTER—CHARADE.

it is used more generally to designate those which mark individual from individual, than species from species or genus from genus.

CHARACTER TO SERVANT: term, not very felicitous, for a written recommendation given a servant by an employer. The master is under no legal obligation to give a ‘character’ to his servant, however long, faithfully, or efficiently he may have served him; the duty of bearing testimony in his favor being one which, however binding in morality, it has not been found convenient to enforce by positive law; but, if given, the statement must be strictly true, or, at all events, in accordance with the master’s belief, otherwise he may be exposed to an action for damages, either by the servant whom he has calumniated, or by a subsequent employer whom he has deceived. If true, however, the fact of its being unfavorable will expose the master to no risk. In order to justify the giving of a bad ‘character,’ however, it must, in general, be asked for by the servant, as the master is not entitled needlessly to publish the servant’s defects. In that case, it will lie with the servant to prove its falsehood, not with the master to prove its truth. The case of the servant being known by the master to have committed a felony while in his service is, however, an exception to this rule, as, in a case so extreme, the master is at liberty to warn others against taking him into their employment. Even though strictly true, the ‘character,’ if unfavorable, must not be more so than the circumstances render necessary. Acts of petty dishonesty, such as are too common among servants, will not warrant the master in branding him as a thief: the safe course, in such a case, is to state the offense, and not to describe it by a general epithet, which may convey an erroneous impression of its magnitude.

It is probable that, partly from thoughtless good-nature, and partly from a selfish desire to get rid of a bad servant in the most comfortable manner, false characters are given in favor of servants very much more frequently than to their prejudice. It is desirable that masters and mistresses should have in view that they may render themselves liable in reparation of any damage which can be shown to be the direct result of thus inflicting on a stranger a wrong which is unquestionably within the reach of the law.

CHARACTERISTIC: see LOGARITHMS.

CHARADE, n. *shă-răd'* [F. *charade*—from Prov. *charada*; Norm. F. *charer*; Lang. *chara*, to converse: comp. Gael. *ciar*, dark; *radh*, a saying]: ‘syllable-puzzle’ (as the Germans call it) spoken or acted for amusement. The spoken kind consists in dividing a word of one or more syllables into its component syllables, or into its component letters, predicating something of each; and then, having reunited the whole, and predicated something of that also, the reader or listener is asked to guess the word. As a specimen of the C. depending upon syllables, we adduce the following:

CHARADRIADÆ.

'My *first* is plowed for various reasons, and grain is frequently buried in it to little purpose. My *second* is neither riches nor honors, yet the former would generally be given for it, and the latter are often tasteless without it. My *whole* applies equally to spring, summer, autumn, and winter; and both fish and flesh, praise and censure, mirth and melancholy, are the better for being in it. Ans. *Sea-son.*'

As a specimen of the second class of charades, we take the following happy example from the French:

'Quatre membres font tout mon bien,
Mon dernier vaut mon tout, et mon tout ne vaut rien.'

The word is *zero*. It is composed of four letters, of which the last—viz., *o*—is equal to *zero*; the whole, zero itself, being equal to nothing.

Besides the charades of this nature, there is another kind popular at evening-parties—the *acted* C.: the character of which is entirely dramatic. Half a dozen or so of the company retire to a private apartment, and there agree to select a certain word, as the subject of the C.; let us suppose INNKEEPER (though this involves acting *two* syllables in one scene, which is by some deemed contrary to rule). The next thing done is to take the first syllable, INN, and arrange a little scene and dialogue, each member taking a certain part. This being accomplished, the amateur actors return to the drawing-room, and commence their performance, the rest of the company constituting the spectators. Care is taken to mention conspicuously, and yet not obtrusively, in the course of the dialogue, the word INN, which is the subject of the scene. On its conclusion, they again retire, and devise a new series of incidents for the word KEEPER, generally something in connection with a menagerie or a madhouse. This being also represented, they retire for a third time, to contrive the final scene, into which both words, or rather the whole word, Innkeeper, must be dexterously introduced at an odd moment when the spectators are thought to be off the scent. The company are then asked to guess the word. In order to the effective performance of a C. of this sort, the actors must possess a good share of inventiveness, self-possession, and ready talk, as the greater portion of the dialogue has to be extemporized.

CHARADRIADÆ, *kär-a-dri'a-dē*: large family of birds, order *Graallatores*, tribe *Pressirostres*; abounding chiefly in the temperate parts of the old world, and generally frequenting sandy unsheltered shores and open moors and downs. They have a short bill, generally soft at the base, hard and often a little inflated toward the tip; long and powerful wings; long legs; and short toes, generally only three in number, and all directed forward, but sometimes they have also a very small hinder toe. They run with great swiftness: they generally congregate in flocks, at least during certain parts of the year; many of them are nocturnal in their habits; many are migratory. The Plovers (*Charadrius*) have given their name to the family, which includes also Lapwings, Pratincoles, Oystercatchers, Turnstones, Sanderlings, etc.

CHARBON ROUGE—CHARENTE.

CHARBON ROUGE, *shár'bon rózh*, or RED CHARCOAL: variety of charcoal obtained by subjecting wood to the action of heated air from furnaces, or of steam, which has been raised to a temperature of 572° F. Air-dried wood, by the ordinary process of charring, yields at the best 21 to 26 per cent. of black charcoal; but when acted on by heated air or steam, as mentioned above, 36 or 42 per cent. of C. R. is obtained. It is now prepared largely in France and Belgium, and is used in stoves for heating, and in the preparation of gunpowder. It has a dark-red color, and consists of about 75 per cent. pure carbon, and 25 per cent. hydrogen and oxygen.

CHAR'CAS: see CHUQUISZEA.

CHAR'COAL [see under CHAR 2]: popular term applied to charred wood, or coal produced by charring wood. There are several other varieties of C., however, for which see CARBON: BONE-BLACK (animal charcoal): WOOD-CHARCOAL: COKE: BLACK LEAD: etc.

CHARCOAL-BLACKS: pigments made both from animal and from vegetable substances—e.g., burnt ivory, bones, vine-twigs, peach-stones, nut and other shells, the smoke of rosin condensed, etc. Those derived from vegetable substances, when mixed with white, are usually of a blue tint. See LAMP-BLACK.

CHARD, n. *chárd* [F. *cardé*, a chard—from It. *carda*—from L. *cardūs*, the wild and esculent thistle]: the leaves or centre stalks of artichokes, beet, etc., blanched in their growth.

CHARE: see CHAR 3.

CHARENTE, *shá-röngt'*: considerable river in the w. of France; rises in the dept. of Haute-Vienne, about 14 m. n.w. of Chalus. It first flows n.w. to Civray, where it turns southward into the dept. of Charente to Angoulême; thence it flows westward past Châteauneuf, Jarnac, and Cognac, and entering Charente-Inférieure, it runs n.w. past Saintes, and falls into the Atlantic below Rochefort, and opposite the islands Oléron and Aix. This river gives its name to two departments, both remarkable for the productiveness of their vineyards; but the wines are mostly used in the preparation of brandy and liqueurs.

CHARENTE, *shá-röngt'*: department of France, formed chiefly out of the old province of Angoumois; lat. 45° 10'—46° 8' n., and long. 0° 50' e.—0° 30' w.; about 2,294 sq. m. It is generally hilly, and is watered by the river Charente (q.v.), and its tributaries, the Tardouère and the Bandiat, with the rivers Vienne and Dronne. The highest chain of hills in the north of C. is a continuation of the heights of Limousin, forming the watershed toward the Loire. Remains of marine productions show that the basin of the C. was formerly filled by the ocean. The soil is mostly limestone, here and there interrupted by banks of clay and gravel. Only a portion of the arrondissement Confolens has a rich vegetable clay-mold. The clay-soil

CHARENTE-INFÉRIEURE—CHARGE.

is cool and moist, while the limestone district is dry and hot. The hills are in many places clad with chestnut forests. The climate is generally mild and healthful. The wines grown are spirituous and fiery in flavor, and are chiefly used in the manufacture of Cognac, which is the most important export. Truffles grow abundantly in several parts. Industry is rather backward. C. is divided into the five arrondissements of Angoulême, Cognac, Ruffec, Barbezieux, and Confolens. Pop. (1901) 350,305.

CHARENTE - INFÉRIEURE, *shá-röngt' ång-få-rē-ér'*: maritime dept of France, which includes the former province of Angoumois, with the greater part of Saintonge, and a small portion of Poitou; lat. $45^{\circ} 5'$ — $46^{\circ} 19'$ n., and long. $0^{\circ} 7'$ e.— $1^{\circ} 13'$ w.; 2,635 sq. m. The Bay of Biscay washes its w. boundary—the coast-line, which is very broken, measuring about 100 m. It is watered on its boundaries by the Sèvre-Niortaise and the Gironde, and in the centre by the navigable Charente and the coast-stream Sendre. The surface is level; and the soil—near the coast, intersected by ridges of rock and sand-banks, and protected from the sea by dikes—is mostly chalky and sandy, but very fertile, producing hemp, flax, saffron, and wine in great quantities. The commerce, facilitated by the structure of the coast, and by canals in the interior, is considerable, consisting chiefly of brandy and sea-salt, which is abundant. The oyster and pilchard fisheries are important. The chief harbors are those of Rochefort and La Rochelle, the latter of which is the chief town. C. is divided into the six arrondissements of La Rochelle, Rochefort, Marennes, Saintes, Jonzac, and St. Jean-d'Angely. Pop. (1901) 452,149.

CHARENTON-LE-PONT, *shá-röng-tōng-léh-pōng'*: town of France, in the dept. of Seine, on the right bank of the Marne, 5 m. s.e. of Paris. The bridge over the river, which is important from a military point of view, being considered one of the keys of the capital, and which has frequently been the scene of conflicts, is defended by two forts, forming a part of the fortifications of Paris. At the other side of the river is the national lunatic asylum, formerly called Charenton St. Maurice, now St. Maurice. Pop. (1886) 13,535; (1891) 15,306.

CHARGE, n. *chárj* [F. *charger*, to load, to place in a car—from Sp. *cargar*; It. *caricare*, to load—from mid. L. *carricārē*, to load—from L. *carrus*, a car]: a suitable load of any kind; the quantity of powder and shot or balls necessary to load a gun or cannon; that which is laid or imposed on; an onset or attack, as on an enemy in battle for the purpose of driving him from a particular position, or even destroying his force; any person, thing, or business intrusted or delivered over to another; a trust; exhortation or instructions by a judge to a jury, or by a bishop to his clergy; a solemn direction or command; accusation or imputation; the transactions that constitute a debt; cost; expense; rent or tax on property; the quantity of electricity sent into a coated jar; in *her.*, that which is borne on the field or color: V. to fill or supply with a suitable quantity,

CHARGE—CHARGER.

as a gun, a wine-glass, etc.; to load as a gun; to rush on; to attack; to lay on, as a tax; to intrust to; to set down to, as a debt; to blame; to censure; to accuse; to command, exhort, or enjoin; to give directions to, as a judge to a jury, or a bishop to his clergy; to fill with electricity. CHAR'GING, imp. CHARGED, pp. *chárjd*. CHAR'GER, n. the person who charges; a war-horse; a large dish. CHARGEABLE, a. *chárj'ă-bl*, that may be laid upon or charged to; liable to be charged; expensive or costly. CHARGE'ABLY, ad. -*blī*. CHARGE'ABLENESS, n. expense; cost. CHARGE'LESS, a. cheap. CHARGE AND DISCHARGE, in a financial statement, as by the cashier of a corporation, CHARGE is a brief view of all the particulars of income, and DISCHARGE, a brief view of all the particulars of expenditure, compared and balanced. CHARGEFUL, a. in *OE.*, costly; expensive.—SYN. of 'charge, n.' : care; custody; government; trust; expense; cost; price; management; administration; onset; attack; assault; command; order; control; injunction; mandate;—of 'charge, v.' : to accuse; criminate; attack; indict; arraign; impeach; load; impose; request; exhort; address; debit.

CHARGE, *chárj*, in Heraldry: figures represented on a shield. A shield with figures upon it is said to be charged (Fr. *charge*). The charges in a shield ought to be few in number, and strongly marked, as regards both their character and the mode of their representation. The family shield, belonging to the head of the house, almost always is simpler, i.e., has fewer charges, than the shields of collaterals, or even of junior members.

CHARGE, in Military Pyrotechny: sufficient material (usually the explosive material) for one firing or discharge. It is applicable to all kinds of firings, fireworks, and explosions; but the name is generally given to the quantity of gunpowder requisite for firing off a gun, etc. In cannon, this varies greatly, from $\frac{1}{2}$ to $\frac{1}{16}$ of the weight of the shot; some of the rifled ordnance now coming into use are remarkable for the smallness of the C. with which they are fired. For the quota of C., see the various titles of fire-arms. In breaching a wall, a greater C. is necessary than in attacking a ship or a column of troops, even with the same kind of gun and projectile.

CHARGE, in the Law of Scotland: command to perform an act, conveyed in the letters of the sovereign: also the messenger's copy which he is to serve, requiring the person to obey the order contained in the letters.

CHARGÉ D'AFFAIRES, n. *shár-zhā' dăf-fär'* [F., charge or care of matters]: fourth-class diplomatic agents, accredited, not to the sovereign, but to the dept. for foreign affairs; they also hold their credentials only from the minister, and are sometimes only empowered by an ambassador to act in his absence.

CHARGER: a war-horse, trained; and, in the middle ages before the use of gunpowder, usually clad in armor. They were then said to be *barbed* or *barded*, from an old Fr. word implying covered, clothed, or armed. The face, the

CHARILY—CHARITABLE USES.

head, and the ears were covered with a mask called a *chancron*, to prevent fright when charging the enemy; and an iron spike projected from the middle of the forehead. The neck was defended by small plates called *crinières*; the breast by a *poitrinal*; and the buttocks and haunches by *croupières*. These various pieces of armor were mostly of metal, sometimes of tough leather. The horse was occasionally covered with chain-mail; and in other instances with a *gambeson* of stuffed and quilted cloth. The man-at-arms generally rode another horse when not charging, to relieve the C. from his great burden. A war-horse is still called a C., though not armed as in ancient times.

CHARILY, ad., CHARINESS, n.: see under CHARY.

CHARIOT, n. *chär'i-öt* [F. *chariot*—from *char*, a car: L. *carrus*; It. *carro*, a two-wheeled cart]: a four-wheeled vehicle; a light kind of coach with a front seat only; a war-coach; a car. CHAR'IOTEER', n. *-ö-tëär'*, the driver of a war-chariot in ancient times. The chariot was used in ancient times either for pleasure or in war. According to the Greeks, it was invented by Minerva; while Virgil ascribes the honor to Erechthonius, mythical king of Athens, who is said to have appeared at the Panathenaic festival founded by him, in a car drawn by four horses. The ancient C. had only two wheels, which revolved upon the axle, as in modern carriages. The pole was fixed at its lower extremity to the axle, and at the other end was attached to the yoke, either by a pin or by ropes. The Greeks and Romans seem never to have used more than one pole, but the Lydians had carriages with two or three. In general, the C. was drawn by two horses. Such was the Roman *Biga* (q.v.), but we also read of a *triga*, or three-horse C., and a *quadriga*, or four-horse one. The last was that in which the Roman generals rode during their triumphal entrance into the city, and was often adorned with splendid art. The war-C. held two persons—the soldier himself and the driver, the latter of whom usually occupied the front; but the chariots used by the Romans in their public games held only the charioteer.

The oldest war-chariots of which we read are those of Pharaoh (Exodus xiv. 7). All the eastern nations used them, while we learn from Caesar (*De Bell. Gall.*, v. 19) that the Britons also were familiar with their use.

CHARISTICARIES: ecclesiastical functionaries in the Greek Church having charge of the revenues of hospitals and monasteries

CHARITABLE USES and LAW OF CHARITIES: Relating to all kinds of beneficent trusts or endowments, public or private, for the poor or distressed, for purposes of education and religion, of science and art, and for whatever object or person that may be properly regarded as tributary to these. Law has always anxiously, though often ineffectually, sought to provide for the preservation and proper application of all endowments for charitable beneficent purposes. In England, the preceding efforts of the legislature in this direction may now be said to have been

CHARITON—CHARITY COMMISSIONERS.

superseded by the charitable trusts acts which contain a species of code of charity law (16 and 17 Vict. c. 137; 18 and 19 Vict. c. 124; 23 and 24 Vict. c. 136, and 32 and 33 Vict. c. 110); see CHARITY COMMISSIONERS.

The courts of equity are those which in general take cognizance of all charitable uses or trusts of a public description. Under the authority of these tribunals—or, of the county courts in cases of annual income not exceeding £50. Every species of judicial relief may be afforded which such institutions require for carrying into effect the purposes of donors. Where the management of the charity has been confided by the donor to governors and other functionaries, the law will not interfere with their proceedings unless they can be shown to be squandering the revenues or otherwise abusing the trust. The charity or other benevolent purpose must be for *public* benefit in some sense; ‘for if a sum of money be bequeathed, with direction to apply it to such purposes of benevolence and liberality as the executor shall approve’, or even ‘in private charity,’ the law will take no notice of such a trust.

Legacies to pious or charitable uses are not usually entitled by law to a preference, though such was the doctrine of the civilians; but where a deficiency of assets arises, they are abated in proportion with the others.

In the United States the decisions in the English courts have largely been accepted as precedent for judicial decisions on charitable trusts. There are, however, some notable exceptions; and the statutes of various states show wide differences. In general equity courts show favor to charitable uses.

CHARITON, *chär'i-ton*, or GRAND CHARITON; river of Iowa and Missouri. It rises in Lucas co., Iowa, flows s. through Adair, Macon, and Chariton counties, Mo., and enters the Missouri river 4 m. above Glasgow. Its length is about 250 m., 50 of which are navigable. It is fed by the East Chariton and the Middle Branch.

CHARITY, n. *chär'i-ti* [F. *charité*; It. *carita*—from L. *caritas*, high regard, high price or value—from *cārus*, dear]: kindness; love; that disposition of heart which inclines men to think well of others, and do them good; candor; liberality to the poor; that which is given to the poor; an institution for the poor. CHARITABLE, a. -*tä-bl*, benevolent in disposition; kind in words and actions; kind in judging the acts and words of others; liberal in relieving the necessities of the distressed according to ability. CHARITABLY, ad. -*bli*, kindly; benevolently; liberally. CHARITABLENESS, n. -*tä-bl-nës*, the disposition of a charitable person.—SYN. of ‘charitable’: benevolent; indulgent; kind; liberal; favorable; generous; beneficent; — of ‘charity’: benevolence; affection; good-will; love; indulgence, tenderness; liberality.

CHARITY COMMIS'SIONERS: body of commissioners for England and Wales, created 1853, by the charitable trusts act, 16 and 17 Vict. c. 137 (see CHARITABLE USES),

CHARIVARI—CHARLATAN.

with power to inquire into all charities in England and Wales, with reference to their nature, objects, and administration, and the amount and condition of the property belonging to them. The commissioners have power to call for the production of accounts and documents from trustees, and to appoint inspectors to visit and report on their management. The statute does not extend to the English universities, or to the city of London. An annual report of their proceedings must be laid before parliament by the commissioners.

CHARITY, SISTERS OF : see SISTERS OF CHARITY.

CHARIVARI, n. plu. *shâ'rē-vâ'rē* [F.; really an imitative word having its origin in slang]: mock serenade of discordant music with such accompaniments as tin kettles, shouting, whistling, groaning, hissing, and screaming, and the like, meant for the annoyance and insult of an obnoxious person. The etymology of C. is obscure; the Germans translate it by *Katzenmusik*, to which in English *Cat's-concert* corresponds. Note.—CARRY-WARRY, *kâr'i-wâr'i*, is a Scotch word identical in meaning with the F. word, the one being probably a derivative or accommodation from the other, but which is the primary is uncertain. In France, during the middle ages, a C. was generally raised against persons contracting second nuptials, in which case the widow was specially assailed. On these occasions, the participants in it who were masked accompanied their hubbub by the singing of satirical and indecent verses, and would not cease till the wedding couple had purchased their peace by ransom. C. answers to the English concert upon ‘marrow-bones and cleavers,’ with which it was customary to attack a married couple who lived in notorious discord. It was also called out by an unequal match when there was great disparity in age between the bride and bridegroom.

Similar customs seem to have existed under different names in all parts of Europe, and sometimes of such licentious and violent character as to require military interference to put them down. Even as early as the 14th c., the church found itself forced to threaten punishment and even excommunication against those who participated in them. In more recent times the C. has taken a purely political coloring; as, for instance, during the restoration in France, at which time, however, the popular voice began to seek vent by casting its satirical darts against public men through the press. The papers published for this purpose were called C., the most famous among which is the CHARIVARI, celebrated Fr. comic paper, established in Paris, 1832, Dec. 2, corresponding to the English publication, *Punch* (q. v.).

CHARK, v. *chârk* [AS. *cearcian*, to creak, to crash: Lith. *kirksti*, to cry, to creak]: to burn and make crisp; in *OE.*, to burn to a black cinder as wood to charcoal: N. black burnt and crisp material; charcoal. CHARK'ING, imp.: N. the process of making wood into charcoal. CHARKED, pp. *chârkt*.

CHARKOV': see KHARKOV.

CHARLATAN, n. *shâr-lâ-tân* [F. and Sp., *charlatan*, a

CHARLEMAGNE.

mountebank--from Sp. *charlar* to chatter : It. *ciarlatano*, a quack doctor] : mountebank, quack doctor, or empiric ; hence any one who makes loud pretensions to knowledge or skill that he does not possess. The word seems to be derived from the Ital. *ciarlare*, to babble or talk, the chief art of the C. consisting in talk. Charlitanism abounds in all departments of life, and manifests itself in various ways according to the subject and character of the person. It changes also in form with the spirit of the time. The medical C. no longer appears on a stage in the guise of Doctor Ironbeard, but as a fine-dressed gentleman, receiving grateful acknowledgments through the newspapers, and publishing popular medical books, with the address of the author, and recommendations to apply to him. It has not unfrequently happened, however, that extraordinary men who were so far before their age as not to be understood by it, such as Paracelsus, have passed for charlatans until more justly estimated by later times. Several books have been written on the charlatanism of scholars. J. B. Mencke's satire, *De Charlataneria Eruditorum* (Leip. 1715), is a classical work, which has been continued by Büschel in his book, *Ueber die Charlatanerie der Gelehrten seit Mencke*. CHAR'LATAN'ICAL, a. -č käl, making undue pretensions to skill ; quackish. CHAR'LATAN'RY, n. -rī, quackery ; deceit. CHAR'LATAN'ISM, n. -izm, the conduct, arts, or character of a charlatan.

CHARLEMAGNE, shár-le-mān', or shárl-máñ', i.e., Charles the Great: 742, Apr. 2—814, Jan. 28; King of the Franks (768–814) and Roman emperor (800–814); b. probably at Aix-la-Chapelle; son of Pepin the Short, the first Carlovingian (q.v.) king of the Franks, and grandson of Charles Martel (q.v.). On Pepin's death, 768, he and his brother Carloman jointly succeeded to the throne. By Carloman's death and the exclusion of both his sons from the throne, C. became sole king. In 772 it was resolved in the diet at Worms to make war against the Saxons for the security of the frontiers which they continually threatened, and for the extension of the Christian religion. C. advanced as far as the Weser, 772, securing his conquests by castles and garrisons. Pope Adrian I. now called him to his aid against Desiderius, king of the Lombards. C. had married the daughter of Desiderius and had sent her back to her father because she bore him no children, and married Hildegarde, daughter of the Swabian duke, Godfrey. Desiderius had sought revenge by urging the pope to crown the sons of Carloman, and on the pope's refusal had laid waste the papal territory. C. crossed the Alps from Geneva with two armies by the Great St. Bernard and Mont Cenis, 773, and overthrew the kingdom of the Lombards, 774. The Lombard dukes acknowledged him as their king, and he secured the pope's favor by confirming the gift which Pepin had made to the papal see of the exarchate of Ravenna. In 775 he was again employed in the most northerly part of his dominions reducing the Saxons to subjection; in 776 he suppressed an insurrection in Italy; in 777 he so completed his victory over the Saxons that their nobles

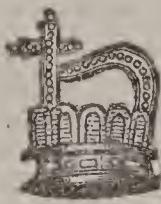
CHARLEMAGNE.

generally acknowledged him as their sovereign in an assembly at Paderborn. Being now invited to interpose in the wars of the Arabs and Moors in Spain he hastened to that country, 778, and added to his dominions the regions between the Pyrenees and the Ebro. From Spain he was summoned in haste by a new insurrection of part of the Saxons who had advanced almost to Cologne, but whom he drove back to the Elbe. In 781 he went to Italy where the pope crowned his second son, Pepin, king of Italy, and his third son, Louis, an infant of three years old, king of Aquitaine. The Saxons once more rising in arms, defeated and destroyed a Frankish army on the Süntel, 782, which C., after a new victory, fearfully revenged by causing no fewer than 4,500 prisoners to be executed as rebels in one day. A more general rising of the Saxons followed, but in 783-785, the Frankish monarch succeeded in reducing them completely to subjection, and in persuading their principal chiefs to submit to baptism and to become his faithful vassals. Subsequent insurrections and wars in Germany between this year and 800 resulted in victories over the Bulgarians and Huns, and in the further consolidation and extension of his empire, the eastern boundary of which now reached to the Raab.

In 800 C. undertook an Italian campaign which was attended with most important consequences. Its immediate purpose was to support Pope Leo III. against the rebellious Romans. When C., on Christmas Day, 800, was worshipping in St. Peter's Church, the pope unexpectedly, as it appeared, set a crown upon his head, and amid the acclamations of the people saluted him as Carolus Augustus, emperor of the Romans. Although this added nothing directly to his power yet it greatly confirmed and increased the respect entertained for him, such was still the lustre of a title with which were associated recollections of all the greatness of the Roman empire. A scheme for the union of the newly-revived western empire with the empire of the east by C.'s marriage with Irene (q.v.) the Byzantine empress, failed by reason of Irene's overthrow. After this C. still extended and confirmed his conquests both in Spain and in Germany. He labored to bring the Saxons to a general reception of Christianity, and founded bishoprics for this purpose. To the end of his reign he was incessantly engaged in wars, and insurrections were always apt to break out on the frontier parts of his dominions; though he endeavored to secure those regions not only by military power and arrangements but by improvements in political and social institutions. His views were liberal and enlightened to a degree rare for many subsequent ages. While he made the power of the central government felt to the utmost extremities of his empire, he recognized in his subjects civil rights and a limitation of monarchic power by their assemblies. He zealously endeavored to promote education, agriculture, arts, manufactures, and commerce. He projected great national works, one of which was a canal to connect the Rhine and the Danube, but he deemed nothing beneath his attention

CHARLEMONT—CHARLEROI.

which concerned the interests of his empire or of his subjects. He required his subjects to plant certain kinds of fruit-trees, the cultivation of which was thus extended northward in Europe. His own domains were an example of superior cultivation. He had a school in his palace for the sons of his servants. He built sumptuous palaces, particularly at his favorite residences, Aix-la-Chapelle and Ingelheim—for he had no fixed capital—and many churches. Learned men were encouraged to come to his court. He himself possessed an amount of learning unusual in his age; he could speak Latin and read Greek. He attempted to draw up a grammar of his own language. C. was of more than ordinary stature, had good health, and a noble and commanding appearance. He was fond of manly exercises, particularly of hunting. He was too amorous, but in eating and drinking he was very moderate. His fame spread



Crown of C.,
now at Vienna.

to all parts of the world; in 768 Harun-al-Raschid sent ambassadors to salute him. He was buried at Aix-la-Chapelle (q.v.) in a church which he had built there. He was succeeded by his son Louis, styled Louis le Débonnaire, the only one of his sons who survived him; but the greatness of his dynasty terminated with his own life. C. is styled Charles I. in the enumeration both of the French kings and of the German or Roman emperors. Besides his *capitularies* (q.v.) there are extant letters and Latin poems ascribed to him. His life was written by his secretary, Egihard.

CHARLEMONT: see GIVET.

CHARLEROI, *shár-le-roy'*, or *shár-leh-rwá'*: Belgian town and fortress, province of Hainaut: on the Sambre, between Mons and Namur on the line of the Brussels and Namur railway. The people do considerable manufacturing in hardware, glass, woolen-yarn, etc. The district is rich in coal, and the number of smelting-furnaces and nail-factories in the neighborhood is very great. The iron-works of Couillet, which yield a third of all the cast-iron produced in Belgium lie within a mile or two of the town. C. has historical and political interest as a fortress. The fortifications were begun by the Spaniards, 1666, but falling into the hands of the French next year they were completed by Vauban. After six exchanges of masters between the French and Spaniards, the peace of Aix-la-Chapelle, 1748, left C. in the possession of Austria. In 1794, after a protracted and desperate resistance, it was surrendered to the French by capitulation when the fortifications were demolished. The importance of the place in a strategic point of view having become apparent during the campaign of 1815, the fortifications have been since restored. Pop. (1873) 12,150; (1886) 20,511; (1890) 20,668; (1901) 25,112.

CHARLES I.

CHARLES I., King of England, Scotland, and Ireland, 1600, Nov. 19—1649, Jan. 30 (reigned 1625–49): b. Dunfermline, Scotland; second son of James I. of England (VI. of Scotland). On the death of his elder brother, Henry, 1612, he became prince of Wales, and heir-apparent to his father's throne; to which he succeeded 1625, but found in both England and Scotland a contest in progress between king and people. He had inherited from his father the most extreme notions of kingly prerogative, and he mistook the general movement in the public mind for an agitation among a few disaffected persons. He had deeply imbibed his father's notion, that an episcopal church was the most consistent with the proper authority of kings; and he adopted severe and persecuting measures against the Puritans in England and the Presbyterians in Scotland. He married a Roman Catholic, Maria Henrietta, of France, a marriage most displeasing to the nation; and even so far despised public opinion as to make his father's favorite, the duke of Buckingham, his prime minister and chief adviser. The English parliament, which he assembled, 1625, was resolved upon the vindication of the national liberties, and was therefore very sparing in its grants of subsidies; and that of 1626, instead of freely granting supplies, resolved upon the impeachment of Buckingham; whereupon the king threw into prison two of the boldest members, Elliot and Diggles; dissolved parliament; and, to procure money, had recourse to the arbitrary measures of forced loans, and a tax upon the seaports (*ship-money*), imposed by the mere exercise of royal authority. By all this public feeling was more and more embittered. In 1628, C. found it necessary again to summon a parliament; and the parliament, very resolute to maintain the liberties of the nation, presented the petition known in history as the *Petition of Right* (q.v.). C. temporized, conceded, and finally, although the assassination of Buckingham had removed one cause of strife, assumed a threatening tone, and dissolved the parliament, 1629, Mar. 10. He even caused some of the leading members of the house of commons to be imprisoned. He now governed for 11 years without a parliament, having Laud (q.v.) and Strafford (q.v.) for his chief advisers, and obtaining for his edicts the semblance of a legal sanction by means of the star chamber (q.v.). All this while the storm was gathering, the love of liberty increased, and republican principles were developed and extended. The policy which C. adopted was that of more severe repression. At length, 1638, Scotland assumed an attitude of determined resistance to the imposition of a liturgy and of episcopal church-government. The national covenant (q.v.) was subscribed, presbyterianism was completely restored; and in 1639, the king having assembled an army for the purpose of reducing Scotland to subjection, the Scottish covenanters also took up arms, and advanced to the English border, many of the English regarding their approach with joy. Civil war was, however, prevented for the time, by concessions on the part of the king. Unable to do without supplies any longer, C. summoned an English parliament, 1640, which, instead

CHARLES I.

or listening to his demands, began to draw up a statement of public grievances. C. soon dissolved the parliament, and assembled an army to resist the Scots, who had again taken up arms and entered England; but his army was defeated by them at Newburn-upon-Tyne, and they advanced southward, with the sympathy and good-wishes of no small part of the king's English subjects. Much against his will, C. was now compelled again to call a parliament, whose memorable sittings began 1640, Nov. 3. Both houses were resolute in their opposition to his despotism. They began by the impeachment of the ministers and high officers of state, and declared the decrees of the star chamber and court of high commission null and void. They passed a bill in favor of triennial parliaments; and the king, in trepidation, gave it his assent. He also consented, although against his own convictions, to the execution of Strafford; and even gave his assent to an act which provided that the present parliament should not be dissolved, prorogued, or adjourned, without its own consent. Hoping to win the favor of the Scots he now visited Scotland; but while he was there a rebellion broke out in Ireland, accompanied with a fearful massacre of Protestants. The prospect of a peaceful accommodation was now almost destroyed; the English parliament enlarged its demands; the king, after seeming to yield, took the extraordinary step of suddenly, 1642, Jan. 4, appearing in the house of commons, accusing five members—Pym, Hampden, Hollis, Hazelrig, and Stroud—of high treason, and demanding that they should be delivered up to him. Both houses of parliament espoused their cause, and the city of London showed a determination to defend them by arms. C. left London with his family and the parliament declared the kingdom in danger. Civil war began; the royalists had at first the advantage, but the national feeling was with the parliament. Negotiations were from time to time opened or renewed, but always in vain. After the battle of Naseby, 1645, June 15, in which the king's army was almost annihilated by the parliamentary troops under Fairfax and Cromwell, C. was compelled to seek refuge in the Scottish camp. Negotiations still proving fruitless he was delivered up to the English parliamentary army. Negotiations were still attempted with C. in his captivity, but resulted in nothing. Finally, C. fled, was taken, refused the ultimatum of the army, and so enraged Cromwell and the independents that parliament was obliged to pass an act declaring all negotiation with the king to be treason. The Presbyterians of England and the Scots, who were always haunted by the notion that there was something sacred and inviolable in monarchy, thought to rescue the king from the hands of the independents, but were defeated; and all the Presbyterians were forcibly expelled from the English house of commons, which now consisting only of about 60 members—the *rump parliament*—appointed a court composed of persons from the army, the house of commons, and the city of London, to try the king. The court was opened with great solemnity in Westminster hall, 1649, Jan. 20. About 70 members took part in its

CHARLES II.

proceedings. On Jan. 27, C. was condemned to death as a tyrant, murderer, and enemy of the nation. The Scots protested, the royal family entreated, and the court of France and states-general of the Netherlands interceded, but in vain. In 1649, Jan. 30, he was beheaded in front of the palace of Whitehall. In his last hours he showed great calmness and presence of mind. In his private character, C. was a man of cultivated mind, kind, and of irreproachable life; but in political affairs he was unscrupulous, and had recourse to dissimulation and falsehood for the accomplishment of his purposes. In the estimation of many, who do not condemn it on moral grounds, his execution is deemed a great political blunder. From the restoration of Charles II., Jan. 30, was observed in the Church of England with special religious services, as the day of *King Charles the Martyr*. This commemoration, offensive to a great part of the community, and of the members of the Established Church itself, was abolished by act of parliament, 1859.

CHARLES II., King of England, Scotland, and Ireland: 1630, May 29—1685, Feb. 6 (reigned 1649–85); eldest son of Charles I. He went with his mother to France during the civil war. He was at the Hague at the time of his father's execution, and immediately assumed the title of king. He mediated an expedition to Ireland for the assertion of his claims, when the Scots offered him their crown in 1650, and proceeding to Scotland he was crowned at Scone in the beginning of 1651. The limitations, however, under which he received the crown were disagreeable to him, and he hated the restraint put upon his inclinations by the Presbyterian clergy. After the defeat of the Scots at Dunbar, he put himself at the head of their army, in hope of rousing the royalists of England to his support; but was completely defeated by Cromwell, at Worcester, 1651, Sep. 3. He made his escape, amid many dangers, to France, where his situation was not agreeable and from which he went to Cologne, and afterward to the Netherlands. After Cromwell's death the desire of the English for a settled government, leading to the restoration of the house of Stuart, he landed at Dover, 1660, May 26; was received with acclamation by the people, and ascended the throne almost untrammelled by a single condition. He was surrounded by men of extreme party-feeling, among whom the most influential was the chancellor, Clarendon (q.v.). The persons immediately concerned in the death of Charles I. were brought to the scaffold; Episcopacy was restored; and the Independents, Presbyterians, and other nonconformists, both in England and in Scotland, were subjected to great hardship and persecution. The king was extravagant, and soon found himself in want of money, he married the Princess Catharine of Portugal, for the sake of her large dowry; he shamefully sold Dunkirk and Mardyke to the French, and, for a pecuniary consideration, agreed to make war against the united provinces, although such a war was contrary to all the feelings of the English people and the interests of English commerce. The Dutch fleet,

CHARLES I.—CHARLES III.

under De Ruyter, entered the Thames, and C. was compelled to make an ignominious peace. After the fall of Clarendon, the ministry known as the Cabal (q.v.) ministry came into power—a ministry hateful to the country, composed of unprincipled men, and bent upon the restoration of popery and of absolute monarchy. C. sought to conciliate the people by the *Triple Alliance*, 1668, May, with Sweden and the states-general, but the French court soon found means to persuade him again to make war against the united provinces. He basely accepted pecuniary gifts and a pension from the French government; and, as even this, with all that he could get from his parliament, was insufficient for his expenses, he had recourse to illegal means of raising money. The story of the *Popish Plot* (q.v.) against the life of the king caused prodigious excitement among the people, and Lord Stafford and many other persons were most unjustly brought to the scaffold. The parliament of 1679, very much against the will of the court, enacted the celebrated *Habeas Corpus Act* (q.v.); and a bill was under consideration for the exclusion of the king's brother, the Duke of York, from the throne, on account of his avowal of the Rom. Cath. religion. The king, at this period of his reign, had, however, completely crushed the Presbyterians of Scotland, and was more absolute than any of his predecessors had been on either of the British thrones. Most arbitrary measures were adopted. The city of London was deprived of its privileges, because of the election of a sheriff disagreeable to the court. The *Rye-house plot* (q.v.), a widely extended conspiracy, in which the king's natural son, the Duke of Monmouth (q.v.), was concerned, was discovered 1683, and cost the lives of a number of persons, among whom were Lord Russell and Algernon Sidney. C., however, appears to have recognized the necessity of a more liberal policy, when he was unexpectedly carried off by death. In his dying hours he called in the assistance of a Rom. Cath. priest, though he had not previously avowed his attachment to that religion. His reign was full of events dishonorable to his country, and of which he himself was generally the cause. His life was most dissolute—his adulteries and the profligacy of his court scarcely paralleled in British history. He had an affability, however, which won for him a certain sort of popularity.

CHARLES I., surnamed THE BALD, King of France:
see CARLOVINGIANS.

CHARLES II., surnamed THE FAT, King of France:
see CARLOVINGIANS.

CHARLES III., THE SIMPLE, King of France: 879–929 (reigned 887–922); posthumous son of Louis the Stammerer. The early part of his reign was merely nominal; but Eudes, who succeeded Charles the Fat, was forced by the emperor to cede Neustria, and on Eudes's death, 898, C. gained the entire kingdom. By his treaty with the Normans, 911, they accepted baptism and received Normandy, and their chief, Rollo, married C.'s sister and became duke.

CHARLES IV.—CHARLES VII.

The barons rebelled, 922, and elected Robert, brother of the late king; when C. killed him at the battle of Soissons, they elected Raoul, Duke of Burgundy. Herbert, Count of Vermandois, whom C. trusted, betrayed and imprisoned him; Raoul released him, and he died at Peronne.

CHARLES IV., surnamed THE FAIR, King of France and Navarre: see CAPETIAN DYNASTY.

CHARLES V., surnamed THE WISE, King of France, 1337, Jan. 21—1380, Sep. 16 (reigned 1364–80); son of King John. His father being made prisoner by the English at the battle of Poictiers, 1356, Sep. 19, he assumed the regency. The most significant events during his rule were the vigorous efforts of the *bourgeoisie* to deliver themselves from the tyranny of the nobles and the court and the peasant war called the *Jacquerie* (q.v.) At his father's death, 1364, Apr. 8, C. ascended the throne, and by his cautious policy rescued the kingdom from some of its troubles, and re-established the power of the crown, which had been much shaken. War with England raged for a number of years, but with results highly favorable to C., who stripped his enemies of all their conquests in France, except a few fortified places. C. was fond of books and the company of learned men, but was not above the natural weakness of kings for outward pomp and magnificence.

CHARLES VI., King of France: 1368, Dec. 3—1422, Oct. 21 (reigned 1380–1422); b. Paris; son and successor of Charles V. He was only 13 years of age when his father died. For several years, his uncle, the Duke of Anjou, acted as regent. In 1388, C. took the reins of government into his own hand, but during his lifetime was so often afflicted with insanity, that party-strife raged without much check. The two great families whose influence divided the nation were those of Orleans and Burgundy. It was the Orleans party which called in the assistance of the English, and brought about the battle of Agincourt, so disastrous to the French nation. Subsequently the Burgundians allied themselves to the English, who laid waste the whole of northern France. In the midst of these calamities C. died.

CHARLES VII., King of France: 1403, Feb. 22—1461, July 22 (reigned 1422–1461); son and successor of Charles VI. On his father's death he was at the head of an army, with which he held possession of the s. provinces of the kingdom, Paris and the n. being in the hands of the English, who proclaimed Henry VI. of England king of France, and appointed the Duke of Bedford regent. For some time the events of war were unfavorable to C., who was compelled, 1424, to evacuate Champagne, and, 1425, Maine. In 1426, the Count Dunois gained the first victory over the English at Montargis; but in the year following they besieged Orleans, a place of great importance to C., as securing a connection with the north, and he was roused to fresh energy. At this time, also, Joan of Arc (q.v.), the Maid of Orleans, by her wonderful courage and confidence of a heavenly mission, roused the fervor both of nobles and of

CHARLES VIII.—CHARLES IX.

people. The siege of Orleans was raised, 1429, May ; the English retired disheartened and gradually lost their acquisitions in France. A treaty between the French king and the Duke of Burgundy greatly advanced the French cause. In 1436, C. entered Paris ; and during the further progress of the war, the English lost all their strongholds except Calais. In 1452, they were finally defeated at Castillon. After he was established on his throne C. devoted himself to the reorganization of the government, in which everything had fallen into confusion, but showed a strong anxiety to frame it according to a scheme of perfect despotism, and for this purpose to provide himself with a powerful and well-disciplined standing army, which caused some discontentment among the nobles of his kingdom. His government, however, was mild, and under it France recovered in some measure from the effects of the terrible calamities which it had endured. His last years were embittered by the conduct of his son, the Dauphin, afterward Louis XI.; and his apprehension that his son would poison him was so strong that his subsequent abstinence from food is supposed to have hastened his death at Melun.

CHARLES VIII., King of France: 1470, June 30—1498, Apr. 7 (reigned 1483–98); b. Amboise; succeeded to the throne on the death of his father, Louis XI. For some time the government was carried on under the regency of his sister, Anne of Beaujeu. When C. attained his 21st year, he took the royal power into his own hand, and soon developed a bold and ambitious spirit. The most important incident of his career was his conquest of Naples, 1495, to the throne of which he believed he had a claim. The Italian princes and other European potentates were alarmed by his success. A league was hastily formed between the pope, the emperor of Germany, Ferdinand of Spain, the republic of Venice, and Sforza, Duke of Milan, to oppose his return to France. C., however, gallantly broke through the allied forces near Piacenza, and effected a retreat to his own country. It was with difficulty he was hindered by his councillors from resuming his warlike designs on Italy. C. is said also to have meditated the expulsion of the Turks from Europe, and making himself emperor of Constantinople, having received from Andreas Palaeologus, the grandson of the last Grecian emperor, a transference of his claims to the Byzantine throne.

CHARLES IX., King of France: 1550, June 27—1574, May 30 (reigned 1560–74); b. St. Germain-en-Laye; second son of Henry II. and of Catharine de' Medici (q.v.). He succeeded to the throne on the death of his brother, Francis II. His character was a compound of passion, acuteness, heartlessness, and cunning. Although only 24 years of age when he died, so well had his detestable mother trained him to perfidy and cruelty that he found time, with her assistance and that of the Guises, to perpetrate an act so hideously diabolical that all civilized Europe still shudders at the recollection. The massacre of St. Bartholomew's (q.v.), 1572, Aug. 24, was the culmination of a series of treacheries

CHARLES X.—CHARLES III.

toward the Huguenots which disgraced his reign. The result was that civil war broke out anew, and assumed a very threatening character, as political malcontents associated themselves with the Protestants.

CHARLES X., King of France: 1757, Oct. 9—1836, Nov. 6 (reigned 1824–30); b. Versailles; third son of the Dauphin Louis, and grandson of Louis XV. He received the title of Count d'Artois, and in 1773 married Maria Theresa of Savoy. After the events of 1789, July 14, he and the prince of Condé took the lead in the emigration. In 1796, he sailed from England with a squadron under Commodore Warren, on an expedition to the w. coasts of France, whereupon 20 departments rose in insurrection; but he had not courage to land and place himself at the head of the insurgents, whom he basely left to the vengeance of the republicans. Detested now by the royalists of France, and despised by the British, he lived in obscurity until the allies entered Paris, 1814, when he appeared in France as lieut.-gen. of the kingdom, and issued a proclamation announcing the end of despotism, of conscriptions, and of oppressive taxes. After the second restoration he took little open part in politics, but lived surrounded with priests, Jesuits, and nobles of the old school; and in this circle originated the tyrannical and unconstitutional measures to which even Louis XVIII. made considerable opposition, but which at this time disgraced the government of France. The death of Louis, 1824, Sep. 16, brought C. to the throne. He took the oath of adherence to the charter but soon showed his intention of restoring as much as possible the absolutism of the old French monarchy. Popular discontent rapidly increased. A royal speech, of a threatening character, 1830, Mar. 2, was followed by an address of remonstrance, signed by 221 deputies, upon which the king dissolved the chambers. All the deputies who signed the address were re-elected, but the court, taking fresh courage from the success of the expedition to Algiers, the celebrated ordinances of July 25 were signed by the king, putting an end to the freedom of the press, already largely curtailed, appointing a new mode of election, and dissolving the recently-elected chamber. The capital took up arms, the guards refused to act, and the king soon found himself compelled to flee. As a last resource he abdicated the throne, 1830, Aug. 2, in favor of his grandson, Henry, Duke of Bordeaux; the dauphin also consenting to this act. But it was too late; the revolution was accomplished, and Louis Philippe, Duke of Orleans, was chosen king of the French. C. made his escape to England, resided for some time at Holyrood, and afterward at Prague. He took no part in the political intrigues and attempts of the Duchess de Berri. He died of cholera at Görz. His only surviving descendant, in the male line, is his grandson, the Count of Chambord (q.v.).

CHARLES I., Emperor: see CHARLEMAGNE.

CHARLES II., Emperor: see CHARLES I., of France.

CHARLES III., Emperor: see CHARLES II., of France.

CHARLES IV.—CHARLES V.

CHARLES IV., Emperor of the Romans: 1316–1378, Nov. 29 (reigned 1346–78); b. Prague; son of King John of Bohemia, of the house of Luxembourg, who fell in the battle of Crecy. At the instigation of Pope Clement VI., to whom he had previously taken an oath of humiliating submission at Avignon, he was elected emperor by a portion of the electors 1346, July 11, though Louis IV. then actually filled the imperial throne. But even after the death of Louis, it was not without difficulty that he obtained secure possession of it. He was crowned king of Italy at Milan 1354, and emperor at Rome 1355. In 1356, he issued the golden bull (q.v.), the fundamental law concerning the election of German emperors, in defiance of the very letter of which he afterward, by large bribes, secured for his own son, Wenceslaus, the succession to the empire. He died at Prague. C. was an artful politician but destitute of true greatness. He sought the support of the clergy by undue concessions, sold rights and privileges in Italy and other parts of the empire for money, and cared chiefly for the prosperity of his hereditary kingdom of Bohemia.

CHARLES V., Emperor of the Romans: 1500, Feb. 24—1558, Sep. 21; b. Ghent; eldest son of Philip, Archduke of Austria, and of Joanna, daughter of Ferdinand and Isabella of Spain. Philip's father was the Emperor Maximilian, and his mother was Maria, daughter and heiress of Charles the Bold, Duke of Burgundy. On the death of his grandfather, Ferdinand, 1516, C. took possession of the throne of Spain by the title of Charles I., his mother Joanna being of disordered intellect and incapable of reigning. He was not, however, very favorably received by the Spanish nobles, who were doubtful of his right, and jealous of the followers whom he brought from the Low Countries, where he had been educated. All the abilities of his famous minister Ximenes (q. v.) were requisite to prevent an open revolt. On the death of Maximilian, 1519, C. was elected German emperor from among a number of competitors, chiefly through the influence of the Elector Frederic of Saxony. In his earlier years he had been frivolous and dissolute, but he now became mindful of the duties and dignity of his high position. 1520, Oct. 22, he was crowned at Aix-la-Chapelle, and received from the pope the title of Roman emperor. He ascended the imperial throne at a time when Germany was in a state of unprecedented agitation concerning the doctrines proclaimed by Luther. To restore tranquillity, a great diet was held at Worms, 1521, in whose presence Luther's declaration of his principles forms a well-known epoch in the history of the reformation. In 1522 he reduced to subjection the towns of Castile, which had leagued themselves together for the maintenance of their ancient liberties. He was likewise successful in his war against the Turks under Solyman the Great. C. was involved also in a struggle of long duration with France, in which, after many alternations of fortune, his armies at last drove the French from the greater part of their conquests in Italy; and Francis I. of France fell into his hands as a

CHARLES V.

prisoner, after a battle by which the siege of Pavia was raised, 1525, Feb. 24.

The pope, however, began to grow alarmed at his victories, and therefore allied himself with France and the principal Italian states, and released the king of France from the obligations under which he had come by his treaty with Charles. It was the pope's object to exclude C. from all dominion in Italy; but the emperor's forces under Charles of Bourbon, the former Constable of France, took Rome itself by storm, plundered it, and made the pope prisoner. C. pretended great regret for this, went into mourning with all his court, and caused prayers to be said for the pope's liberation, while by his own directions the pope was kept for seven months a captive. Peace was concluded, 1529, on terms most favorable for the emperor. He now thought to put an end to the religious differences in Germany, and to repel the Turks, who had overrun Hungary and laid siege to Vienna. But the Diet at Augsburg, 1530, proved how vain was the hope of restoring the former state of things in Germany; and the emperor refusing to recognize the confession of the Protestants, they refused to help him against the Turks. In 1531, the Protestant princes formed the League of Smalcald (q. v.), and allied themselves with France and England for their own protection. This, and the continued assaults of the Turks, compelled the emperor to yield in some measure to the demands of the Protestants. In 1535, C. undertook an expedition from Spain against the pirate Barbarossa, who had established himself in Tunis, and whose vessels did prodigious injury to the commerce of Spain and Italy. In this expedition he was completely successful, and set free no fewer than 22,000 Christians, who had been held as slaves. War again broke out with France; an armistice for ten years was concluded, 1538; and C. even visited Paris, where he was magnificently entertained. But the war broke out afresh 1542, and terminated in favor of the emperor; who also triumphed in the battle of Mühlberg, 1547, Apr. 25, over the Prot. princes of Germany, and deprived the Elector John Frederic of Saxony of his territories. But he showed so plainly his intention of converting the German empire into a hereditary possession of his family, that new opposition arose, and C. was compelled to flee before the arms of Duke Maurice of Saxony and the Protestants, and in 1552 to promise them the peaceful exercise of their religion, which was confirmed by the Dict at Augsburg, 1555. Henry II. of France also took from C. some parts of Lorraine. His health failing, C. now declared, in an assembly of the states at Louvain, his resolution to seek repose, and devote the remainder of his days to God. He resigned the government of his dominions to his son, for whom, however, he vainly sought to secure the imperial throne; and having relinquished to him the crown of Spain, 1556, Jan. 15, he retired to the monastery of Yuste, in Estremadura, where he spent two years partly in mechanical amusements, partly in religious exercises, which are said to have assumed a character of the most gloomy asceticism, and in this men-

CHARLES VI.—CHARLES VII.

astery he died. By his wife Isabella, daughter of King Emmanuel of Portugal, he had one son, his successor, Philip II. of Spain, and two daughters. His brother Ferdinand succeeded him in the empire.

CHARLES VI., German Emperor; the last of the proper male line of the House of Hapsburg: 1685—1740, Oct. 20 (reigned 1711—40); second son of the Emperor Leopold I. His father intended for him the crown of Spain; but Charles II. of Spain, yielding to French intrigues, assigned it by testament to Philip of Anjou, whereupon arose the great war of the Spanish succession—Britain and Holland taking part with the emperor against France, for the maintenance of the balance of power in Europe. C. was acknowledged by the allies as Charles III. of Spain, but had not succeeded in obtaining permanent possession of the kingdom, when the death of his brother, the Emperor Joseph I., recalled him to Germany, 1711; and as he now became emperor of Germany, Britain and Holland concluded the peace of Utrecht with France, 1713. C. continued the war for some time longer; but was at last compelled to give up his claim to Spain, being confirmed, however, in possession of the Spanish Netherlands and of the Spanish possessions in Italy. Success attended his arms in a war against the Turks, and in a war with Spain, which arose out of the projects of the Spanish minister Alberoni, and in which the *Quadruple Alliance* was formed—France, Britain, and Holland joining the emperor against Spain. But C., having lost his only son, and being very anxious to secure the throne to his own descendants, named his daughter, Maria Theresa (q.v.), as his heiress, by a *pragmatic sanction* (q.v.), to which he had much difficulty in obtaining the consent of some of the German states and some foreign powers; and to accomplish this object he gave up Tuscany, Parma, and Piacenza, and afterward Naples, Sicily, Lorraine, and parts of Milan. Meanwhile, he was unsuccessful in wars with France and Spain, and with the Turks, who compelled him, 1739, to resign his former conquests. He was of a mild and benevolent disposition, but full of superstition and of prejudices in favor of feudalism and ecclesiastical domination.

CHARLES VII., German Emperor: 1697—1745, Jan. 20 (reigned 1742—45); b. Brussels; son of Maximilian Emmanuel, Elector of Bavaria and for some time governor of the Spanish Netherlands. After the conquest of the Bavarian territories, and the pronunciation of the ban of the empire against his father by the Emperor Joseph I., he was for a time the emperor's prisoner; but after the decease of Joseph, he married his youngest daughter; and having, 1726, succeeded his father as Elector of Bavaria, refused his consent to the Pragmatic Sanction (see Charles VI., German emperor); and on the death of Charles VI., 1740, advanced a claim to the Austrian dominions in right of his wife, and upon the further ground of a testament of Ferdinand I. Success at first attended his arms; he was acknowledged as Archduke of Austria, and then as king

CHARLES I.—CHARLES IV.

of Bohemia, upon which he was also, 1742, elected emperor. But the tide of fortune now turned against him. The Hungarians rose in favor of Maria Theresa, and he was driven from Austria and from Bohemia, and for a time even from his Bavarian capital, Munich. Disease and calamities combined to cause his death, shortly before which he said, ‘Misfortune will never leave me, till I leave it.’

CHARLES I., King of Spain: see CHARLES V., Emperor.

CHARLES II., King of Spain: 1661–1700 (reigned 1665–1700); son of Philip IV. During his infancy, the queen, Anna Maria of Austria, who was regent, warred unsuccessfully with France and lost Sicily. C. assumed the government, 1675, and took for his chief adviser Don John, bastard son of the late king, who died 1679. By the treaty of Nimeguen, 1678, C. ceded Franche-Comté and several Dutch towns to France. His marriage to Louisa of Orleans, niece of Louis XIV., secured peace for eleven years: after her death he married Anne, sister of the emperor Leopold I., whom he joined in declaring war against France, 1694. The French troops had reached Barcelona when he concluded the treaty of Ryswick, 1697. Being childless, his last years were occupied with negotiations concerning the succession. He inclined to Austria, but under the pope’s influence left the crown a month before his death to Philip of Bourbon, grandson of Louis XIV.

CHARLES III., King of Spain: 1716–88 (reigned 1759–88); second son of Philip V., and great-grandson of Louis XIV. of France. At fifteen he was supplied with an army and sent to rule Tuscany, Parma, and Piacenza as a Spanish principality. He conquered the two Sicilies, 1734, and was recognized as king thereof by the emperor. Succeeding his brother, 1759, he began a beneficent reign. A man of strong and liberal mind, and served by able ministers, he reformed the finances, founded a bank at Madrid, banished the Jesuits, developed commerce, science, and art, strengthened the army and navy, and attempted to repress piracy, brigandage, and the Inquisition. He ceded Florida to England in exchange for Cuba, and received it back from the United States, which he had assisted in the revolutionary war. His attack on Gibraltar was unsuccessful, and he gained little by the war with England. His reign has been described by Beccatini and Roy, and his character eulogized by Cabarrus. Buckle, in his *History of Civilization*, bore tribute to the enlarged and useful policy of this monarch, whose humorous features were long familiar to Americans on his silver coinage. He died at Madrid.

CHARLES IV., King of Spain: 1748–1819 (reigned 1788–1808); son of Charles III. He was governed by his queen and cousin, Maria Louisa of Parma, and in large measure by Manuel Godoy, a guardsman who rose from the ranks to be lieut.gen., duke of Alcudia, and minister of foreign affairs. After C. had vainly attempted to aid Louis XVI., Godoy made a treaty with the French republic at Basel,

CHARLES IX.—CHARLES X.

1795, and soon afterward concluded an offensive and defensive alliance. During a war with England, the Spanish fleet was destroyed by Nelson at Trafalgar, 1805. C. made a secret and curious treaty with Napoleon, 1807, by which 16,000 Spanish troops were sent to help the French in Denmark, while Portugal was to be divided between Godoy and the queen of Etruria, and C. was to be called emperor of America. At this time Napoleon was intriguing with Ferdinand, C.'s son and heir, who was soon detected in a plot against the king's life, and who continued his conspiracies after being pardoned. Alarmed by disturbances in Madrid, C. abdicated, 1808, in Ferdinand's favor. He presently sought to nullify this action, but gave up the crown to Napoleon, receiving a pension of 6,000,000 francs and the castle of Chambord. He might afterward have regained the throne, but declined to do so, preferring to live in sumptuous retirement with his wife and Godoy. He died in Rome.

CHARLES IX., King of Sweden: 1550–1611 (reigned 1604–11); fourth son of Gustavus Vasa. He attained the regency pending negotiations with his nephew Sigismund, King of Poland, who inherited the Swedish crown, 1592, and who, as a Rom. Cath., was required to sign a decree establishing Lutheranism in Sweden. On Sigismund's deposition, 1604, C. was elected king. He warred with Poland, Russia, and Denmark, and at the age of 60 challenged the Danish king, Christian IV., to single combat. He framed a new code of laws, advanced education, and founded the Univ. of Gothenburg. He wrote a rhymed chronicle of his Polish war, and some letters, translated into German and pub. at Amsterdam, 1608.

CHARLES X., or CHARLES-GUSTAVUS, King of Sweden: 1622, Nov. 8—1660, Feb. 23 (reigned 1654–60); b. Nyköping. After studying at the univ. of Upsala, he travelled through France, Germany, and Switzerland, joined the army of Torstensohn (q.v.), 1642, fought at the battles of Yankovitz and Leipzig, and at the close of the war was the representative of Queen Christina at the conferences for giving effect to the treaty of Westphalia. On the abdication of Christina, Charles-Gustavus, who was the son of Gustavus Adolphus's eldest sister, Catharine, and John Casimir the Palatin of Zweybruck in Clerburg, succeeded as next heir, 1654, June 17, to the throne of a kingdom which, after his accession, he discovered to be almost bankrupt. There was a debt of 10,000,000 crowns, while the revenue did not amount to 800,000 crowns, out of which one-fourth was granted as a pension to the ex-queen, whose carelessness and extravagance had brought about this deplorable state of matters, and who, in the words of the aged chancellor Oxenstierna, 'had cost Sweden dearer than ever an enemy did.' She had taken away everything belonging to the royal residences which was portable; and C. was forced at first to borrow even a set of kitchen utensils. C. was the second of the three great warrior-monarchs of Sweden, but unlike his uncle, who could plead

CHARLES XI.

religious grounds, and his grandson, who was at first forced to fight for self-preservation, C. seemed to make war principally for war's sake. First he attacked Poland, 1655, July, because the Polish monarchs had not resigned their claim to the Swedish throne; captured in the same year Warsaw, Cracow, Thorn, Elbing, Posen, and Kalicz; and drove the king to take shelter in Silesia: he then assailed the Danes, who had declared war against him, crossed the Belts on the ice, and speedily made himself master of all the continental possessions of Denmark. Next marching from isle to isle over the frozen sea, he ultimately, by menacing Copenhagen, compelled the treaty of Roskild (1658, Mar. 7), which gave to Sweden, Holland, Scania, Bleckingen, Bornholm, and the other Danish possessions beyond the Sound, and emancipated Sweden from the Sound Dues. Charles, however, still cherished enmity against the Danes; and after fruitlessly proposing to the Dutch and English a partition of Denmark, he invaded Zealand, and attacked Copenhagen, 1659. The capital, however, defended itself valiantly, aided by succor from the Prussians and Dutch; and the Swedish monarch was compelled to abandon the siege. Soon afterward, while laboring to effect a complete reconciliation with Poland in order to be free to attack the Danes in Norway, he died suddenly at Gothenburg.

CHARLES XI., King of Sweden: 1655, Nov. 24—1697, Apr. 15 (reigned 1672–97); son of King Charles (X.) Gustavus. While he was little more than four years old at his father's death, the government was committed to his mother Hedwig, as regent, and a council. The peace of Oliva (1660, May 3) with Poland, by which Sweden obtained Estonia, part of Livonia, and Oesel, and the Polish monarch renounced all pretensions to the Swedish crown; and that of Copenhagen (1660, June 6), generally confirmatory of the treaty of Roskild with Denmark, were the first important acts of the government. A treaty with Russia on the basis of the *status quo* followed in 1661; and from this period till 1672 the kingdom was free from foreign wars. In 1672 Dec., C. (whose education had been so ill attended to that he had reached manhood before he could read) took the reigns of government, and, by the allurements of France, was induced to make war on Brandenburg. This unprovoked attack was disastrous to the Swedes, for they suffered a severe defeat from the elector at Fehrbellin (1675); and though C. revenged himself by defeating the Danes (who were allied with Prussia) at Halmstadt, Lemd, and Landskrona, his fleet was defeated by the Dutch near Oeland, and again by the Danes at Bleking and Kiöge; and many of Sweden's recent acquisitions were wrested from her. These, however, were restored by the peace of Saint-Germain-en-Laye (1679, Sept. 17), which closed this needless and unfortunate contest. In 1680, a struggle commenced between the crown, supported by the burghers and peasants on one hand, and the nobles on the other; and a considerable diminution of the power of the nobles was the consequence. The resumption

CHARLES XII.

of all the crown lands which had been alienated since 1609 was a fatal blow to the preponderating power of the nobles; and by a voluntary declaration of the states, 1682, Dec. 9, the king was invested with absolute authority. This voluntary erection of a despotism by the people, a thing of rare occurrence in the world's history, is yet more extraordinary at the close of the 17th c.; and it speaks highly for C. that he never employed his unlimited authority otherwise than for the best interests of his kingdom. By a judicious administration of the revenues, he was enabled to extinguish the public debt (1686), reorganize the fleet and army, and by 1693 to dispense with the calling up of extraordinary subsidies. Though absolute, he never imposed a tax but with consent of the states; and he every year published a detailed account of revenue and expenditure. In 1693, he was formally declared absolute by an act of the diet. The foreign policy of the country also was conducted in a manner equally satisfactory and effective. Deux-Ponts fell to him as heir to his cousin Friedrich-Ludwig, the last palatine, 1681; the attempts of the Danes upon Holstein were rigorously repressed, and many small outlying territories were brought under his sway. His anxiety for his subjects' welfare was particularly shown by commercial and maritime regulations superior to any then in Europe; and by his numerous journeys to all parts of his dominions to examine for himself into the remote details of the administration. A codification of the laws was commenced, but was unfinished when he died at Stockholm.

CHARLES XII., King of Sweden: 1682, June 27—1718, Nov. 30 (reigned 1697–1718); b. Stockholm; son of Charles XI. On the death of his father, 1697, he ascended the throne, and notwithstanding his youth, the states declared him of age to assume the reins of government. The neighboring powers thought this a favorable time to humble Sweden, then the great power of the north, and Frederick IV. of Denmark, Augustus II. of Poland, and the Czar Peter I. concluded a league for this object. The Danes began by invading the territory of the Duke of Holstein-Gottorp, who had married C.'s eldest sister, and who applied to him for assistance. The young king immediately resolved on the most active measures, and approached Copenhagen with such a force as presently compelled the Danes to make peace. C. now hastened to meet the Russians; and although they lay in an intrenched camp beneath the walls of Narva, 50,000 strong, he stormed their camp 1700, Nov. 30, with 8,000 Swedes, and defeated them with great slaughter. He next dethroned Augustus II., and procured the election of Stanislaus Leszczynski as king of Poland. Augustus supposed himself safe at least in Saxony, his hereditary dominion, but was followed thither, and humbling terms of peace were dictated at Altranstädt in 1706. C. obtained from the emperor liberty of conscience for the Protestants of Silesia. Leaving Saxony with an army of 43,000 men, 1707, Sep., he proposed to advance direct upon Moscow: but at Smolensk he was

CHARLES XIII.

induced, by the representations of the Cossack *hetman*, Mazeppa, to change his plan and proceed to the Ukraine, in hope of being joined by the Cossacks. In this hope, however, he was disappointed, and after enduring many hardships, he was defeated by the Russians at Pultowa, 1709, June 27, and fled to Bender in the Turkish dominions.

Augustus II. now revoked the treaty of Altranstädt, and the czar and the king of Denmark assailed the Swedish territories. But the regency in Stockholm adopted measures of effective and successful resistance, and C. prevailed with the Porte to declare war against Russia, in which Peter seemed at first likely to suffer a severe defeat. But Russian agents succeeded in inspiring the Turks with suspicions concerning the ultimate designs of C., who was conveyed to Adrianople, but after some time escaped and made his way through Hungary and Germany, pressing on by day and night with extraordinary speed till he reached Stralsund, where he was received with great joy, 1714, Nov. 11 (22). He was soon, however, deprived of Stralsund by the allied Danes, Saxons, Prussians, and Russians. After he had adopted measures for the security of the Swedish coasts, his passion for war led him to attack Norway. Success appeared again to attend his arms, when, in the siege of Friederichshald, 1718, Nov. 30, he was killed by a musket-bullet. On his death, Sweden—exhausted by his wars—ceased to be numbered among the great powers. He was a man capable of comprehensive designs, and of great energy in persecuting them. His abilities appeared not only in military affairs, but in his schemes for the promotion of trade and manufactures. His self-willed obstinacy, however, amounted almost to insanity; in fact he has been termed ‘a brilliant madman.’ His habits were exceedingly simple; in eating and drinking he was abstemious, and in the camp he sought no luxuries beyond the fare of the common soldier.

CHARLES XIII., King of Sweden: 1748, Oct. 7—1818, Feb. 5 (reigned 1809–18); second son of King Adolphus Frederick, and of the sister of Frederiek the Great, of Prussia. He was trained for naval command, and was long the high admiral of Sweden, in which capacity he distinguished himself by a great victory over the Russians in the Gulf of Finland 1788, and by bringing back his fleet safe to Carlskrona in the most perilous season of the year. He was on several very important occasions called to an active part in political affairs—in the revolution of 1772, when he was made gov.gen. of Stockholm and Duke of Södermanland; after the assassination of his brother Gustavus III., 1792, when he was placed at the head of the regency; and after the revolution of 1809, when he became administrator of the kingdom, and subsequently king. The Swedish monarchy now became limited instead of despotic. Having no child C. concurred with the states of the kingdom in choosing as his successor the French general, Bernadotte, who became crown-prince of Sweden, and ascended the throne on the death of C. The prudence

CHARLES XIV.—CHARLES II.

of the king and crown-prince secured the union of Norway with Sweden 1814, as a compensation for Finland.

CHARLES XIV., King of Sweden and Norway (originally JEAN BAPTISTE JULES BERNADOTTE): 1764, Jan. 26—1844, Mar. 8 (reigned 1818–44); b. Pau, in the south of France; son of a lawyer. He entered the French army as a common soldier; became an ardent partisan of the revolution; greatly distinguished himself in the wars of Napoleon, and soon attained the highest military rank. But he was distrusted by Bonaparte, whose ambitious schemes he took no part in promoting; and Napoleon having taken offense at his conduct after the battle of Wagram, Bernadotte left the army in disgust, and returned to Paris. He was afterward sent by the ministerial council to oppose the British, who had landed at Walcheren, but the breach between the emperor and him grew wider. In 1810, he was elected crown-prince and heir to the throne of Sweden. Almost the only condition imposed on him was that of joining the Prot. church. He changed his name to Charles John; and the health of the Swedish king, Charles XIII., failing in the following year the reins of government came almost entirely into his hands. He refused to comply with the demands of Napoleon, which were opposed to the interests of Sweden, particularly as to trade with Britain, and was soon involved in war with him. He commanded the army of the allies in the n. of Germany, and defeated Oudinot at Grossbeeren, and Ney at Dennewitz. He showed great reluctance, however, to join in the invasion of France, and was tardy in his progress southward.—He became king of Sweden on the death of Charles XIII., 1818, Feb. 5, and won for himself the character of a wise and good king. Education, agriculture, manufactures, commerce, and great public works, as well as the military strength of the kingdom, were promoted by his care. He was succeeded by his son Oscar.

CHARLES XV., King of Sweden and Norway: 1826–1872, Sep. 18 (reigned 1859–72); son of Oscar I., and grandson of Charles XIV. He married 1850, Louisa, dau. of the King of the Netherlands; their daughter married Prince Frederick of Denmark. C. was an amiable man of literary and artistic tastes; his poems were translated into German and pub. at Berlin 1866. His reign was constitutional and popular; during it the Storthing was reformed so as to consist of two chambers, elected respectively by the provincial representatives and by the people.

CHARLES II., THE BAD, King of Navarre and Count of Evreux: 1332–87 (reigned 1349–87); grandson of Louis Hutin. His claim to the throne of France was better than that of Edward III. of England, and inferior only by the Salic law to that of John II. C. began with an assassination, was imprisoned 1356, was released during the king's exile in England and made captain-general by the Parisians, but soon deposed. He ranged and wasted the land with banditti, made peace with King John 1360, but won no favor from Charles V., who succeeded 1364. Accused

CHARLES IV.—CHARLES ALBERT.

of all manner of treasons, and attacked by the King of Castile, the Duke of Anjou, and Duguesclin, he had to yield 20 towns or castles to regain the rest. The accounts of his death vary widely; the popular tradition attests the low estimate of his character.

CHARLES IV., King of Navarre: 1421–61 (reigned 1451–61); son of John of Aragon and Blanche, heiress of Charles III. of Navarre. Inheriting this throne on his mother's death he was kept from it by his father, who married Jeanne of Castile. This princess insulted and persecuted her step-son, and finally had him poisoned. He was a man fit for better times, but forced to struggle for dignities that he did not greatly value; thus warring, he gained much of his heritage, was owned as King of Barcelona, and reconciled to his father. C. had unusual learning for his time: he translated Aristotle's *Ethics*, wrote a chronicle of the kings of his mother's line, and some poetry.

CHARLES, Count of Anjou and Provence, King of Naples and Sicily: see NAPLES: KONRADIN: MANFRED: SICILIAN VESPERS.

CHARLES ALBERT, King of Sardinia: 1798, Oct. 2—1849, July 28 (reigned 1831–49); son of Prince Charles Emmanuel of Savoy-Carignan, and in 1800 succeeded to his father's title and estates in France and Piedmont. In 1817, he married Maria Theresa, daughter of the Archduke Ferdinand of Tuscany. When the revolutionary movement took place in Piedmont 1821, he was made regent, upon the abdication of Victor Emmanuel, until Charles Felix, brother of the late king, should arrive to assume the sovereignty. He displeased both the liberal party and their opponents, and Charles Felix disallowed all his acts, and for some time forbade his appearance at court. In 1829, he was appointed viceroy of Sardinia. On the death of Charles Felix, 1831, Apr. 27, he ascended the throne. The liberals had great expectations from him, but were for a long time disappointed; his government much resembled the other Jesuitic and despotic Italian governments, except that he sought to promote the interests of the country, and to restrict the influence of the clergy in political affairs. It was not till after the elevation of Pius IX. to the papedom, when a new impulse was given to the cause of reform, that the Sardinian government adopted the constitutional and liberal policy to which it has since adhered. C. A. entered warmly into the project of Italian unity, and evidently expected to place himself at the head of the whole movement and of the new kingdom of Italy. When the Lombards and Venetians rose against the Austrian government, he declared war against Austria, 1848, Mar. 23, and at first was exceedingly successful, but was insufficiently supported by the Lombards, and finally defeated by the Austrians, so that after the fatal battle of Novara, 1849, Mar. 23, he was obliged, for the preservation of the integrity of his kingdom, to resign the crown

CHARLES AUGUSTUS—CHARLES THE BOLD.

in favor of his son, Victor Emmanuel. He afterward retired to Portugal, and died at Oporto.

CHARLES AUGUSTUS, Grand Duke of Saxe-Weimar: 1757–1828 (reigned 1775–1828). He is noted for his love of letters and friendship for Goethe, which began in boyhood; Wieland was among his tutors. He was in the Prussian army 1776–1806, but after Jena he joined the Confederacy of the Rhine and aided Napoleon. He turned again 1813, and took command of an army of the Allies; the congress of Vienna enlarged his dominions and advanced them to a grand duchy. The presence of Goethe, Schiller, Herder, etc., at Weimar made his court and name illustrious. His correspondence with Goethe appeared at Leipsic 1863.

CHARLES THE BOLD, Duke of Burgundy: 1435, Nov. 10—1477, Jan. 5 (ruled 1467–77); b. Dijon; son of Philip the Good, of the House of Valois, and of Isabella of Portugal. He bore, during his father's life, the title of Count of Charolais. He was of a fiery, ambitious, and violent disposition. From an early period to the end of his life he was a declared enemy of Louis XI. of France, the nominal feudal superior of Burgundy. Louis having caused Philip to deliver up some towns on the Somme C. left his father's court and formed an alliance with the Duke of Bretagne and some of the great nobles of France for the maintenance of feudal rights against the crown. Their forces ravaged Picardy and Isle-de-France; they threatened Paris, and defeated the king at Montlhéry. The result was a treaty by which the Count of Charolais obtained the towns on the Somme and the counties of Boulogne, Guines, and Ponthieu for himself. In 1467, he succeeded his father as Duke of Burgundy. Richer and more powerful than any prince of that time he conceived the design of restoring the old kingdom of Burgundy, and for this purpose of conquering Lorraine, Provence, Dauphiny, and Switzerland. While he was making preparations for war, Louis invited him to a conference; he hesitated, and Louis by his agents stirred up the citizens of Liege to revolt. Meanwhile C. consented to the conference, and, the news coming of what had taken place at Liege, he seized the king, and if he had not been withheld by his councillor Comines would have put him to death. He compelled Louis, however, to accompany him to Liege, and apparently to sanction the cruelties which he inflicted on the citizens. War raged between them afterward with little intermission, till 1475. In 1475, Sep., C. found leisure to attempt the prosecution of his favorite scheme of conquest, and soon made himself master of Lorraine. In the following year he invaded Switzerland, stormed Grandson, and hanged and drowned the garrison; but was soon afterward terribly defeated by the Swiss near that place, and lost his baggage and much treasure. Three months later he appeared again in Switzerland with a new army of 60,000 men, and laid siege to Morat, where he sustained, 1476, June 22, another and more terrible defeat. After this he sank into despondency and let his nails and beard

CHARLES—CHARLES EMMANUEL I.

grow. But the news that the young Duke René of Lorraine was attempting to recover his territories roused him, and he laid siege to Nancy. His army was small; Italian auxiliaries, whom he had hired, went over to the enemy; and in the battle which he too rashly fought he lost his life. His daughter and heiress, Maria, married the Emperor Maximilian I. With his life ended the long, successful resistance of the great French vassals to the central power of the monarchy.

CHARLES, or CHARLES LOUIS, Archduke of Austria : 1771, Sep. 5—1847, Apr. 30; b. Florence, Italy; third son of Emperor Leopold II. While yet a youth, he pursued military studies with much ardor; and after having greatly distinguished himself as a general in inferior commands, he was intrusted, 1796, with the chief command of the Austrian army on the Rhine. He fought with great success against Moreau at Rastadt, defeated Jourdan in several battles, drove the French over the Rhine, and concluded his victories by taking Kehl in the winter. In 1799, he was again at the head of the army on the Rhine, was several times victorious over Jourdan, protected Swabia, and successfully opposed Massena. In 1800, illness compelled him to retire from active service; but being appointed gen. of Bohemia, he formed a new army there. After the battle of Hohenlinden, he was again called to the chief command, and succeeded in staying the rapid progress of Moreau, but almost immediately entered into an armistice with him, followed by the peace of Luneville. In 1805, he commanded the army opposed to Massena in Italy, and fought the hard battle of Caldiero; but upon bad tidings from Germany, retreated from the left bank of the Adige to Croatia. This retreat was one of his greatest military achievements. In 1809, he won the great battle of Aspern, which first showed Europe that Napoleon was not invincible; but he did not promptly enough follow up his victory, and Napoleon, who hastened to reinforce his army, retrieved his fortunes at Wagram, and the archduke was now compelled to give way before the enemy, till he reached Znaim, where an armistice was concluded, July 12. In the campaigns of 1813–14 he had no part; and lived in retirement till his death.

CHARLES EDWARD (called the ‘Younger Pretender’): see STUART, CHARLES EDWARD LOUIS PHILIP CASIMIR.

CHARLES EMMANUEL I., Duke of Savoy (called the Great): 1562, Jan. 12—1630, July 26 (ruled 1580–1630); b. at the castle of Rivoli, and succeeded his father, Emmanuel Philibert, 1580. He married a daughter of Philip II. of Spain, and at first allied himself politically with Spain, and made war against France for the marquisate of Saluzzo (or Saluces), which he obtained, 1601, on the cession of some other territories to France. But he afterward joined France and Venice to oppose the preponderant power of Spain in Italy; then allied himself with the house of Hapsburg, and set up a claim to Montferrat, but suffered

CHARLES MARTEL—CHARLESTON.

in consequence the direst calamities, great part of his dominions being conquered by the French, and in their hands when he died. He was a prince of vast ambition, and for whom no enterprise was too bold.

CHARLES, surnamed MARTEL—i.e., the Hammer: ruler of the Franks: abt. 690–741, Oct. 22; son of Pepin of Heristal, mayor of the palace under the last Merovingian kings. After his father's death, 714, he was proclaimed mayor of the palace by the Austrasian party. King Chilperic and he now quarrelled, and a civil war arose which ended in C. becoming undisputed mayor of the palace and ruler of the Franks. During the latter years of his life, he indeed allowed the nominal throne to remain occupied—the titular kings being mere puppets in his hands. He was much engaged in wars against the revolted Alemanni and Bavarians, the Saxons, etc., but his importance as a historic personage is due chiefly to his wars against the Saracens, who, having conquered Septimania from the western Goths, 720, advanced thence into Aquitaine, conquered Bordeaux, defeated the Duke of Aquitaine, crossed the Garonne, advanced to the Loire, and threatened Tours. C. defeated them between Tours and Poitiers, 732, in a great battle, in which their leader, Abd-ur-Rahmân, fell, and a stop was put to their progress in Europe, which had filled all Christendom with alarm. He defeated them again, 738, when they had advanced in the Burgundian territories as far as Lyon; deprived them of Languedoc, which he added to the kingdom of the Franks, and left them nothing of their possessions n. of the Pyrenees beyond the river Aude. He died at Quiercy on the Oise, in the midst of his victories, his projects, and his greatness, leaving the government of the kingdom to be divided between his two sons—Carloman and Pepin the Short.

CHARLES RIVER: rises in Worcester co., Mass., and flows e., then n.w., then e., through Norfolk and Middlesex cos. into Boston Harbor, separating Cambridge from Boston. It supplies water-power to many mills and factories, and a number of villages are on its banks. It is about 75 m. long, and navigable 7 m. to Watertown. The Harvard boat-clubs use its lower portion for training. Mr. Longfellow so highly valued the view of this placid stream that he kept possession of a meadow along its bank opposite his house in Cambridge to prevent its being built upon.

CHARLES'S WAIN, n. *chârlz'ēz wān* [AS. *carles-waen*, the churl's or farmer's wain]: a familiar name, from their arrangement, of the cluster of seven stars forming the constellation Ursa Major, or the Great Bear; also called the plow.

CHARLESTON: chief city of S. C. and cap. of Charleston co., lat. $32^{\circ} 45'$ n., long. $79^{\circ} 57'$ w. Situated on a peninsula between the Ashley and Cooper rivers, which run parallel for several miles, and widen toward the sea, it has one of the finest harbors on the Atlantic coast, extending 7 m. s.e. with a width of 2 m., and a depth of 40 to 50 ft. The entrance is 1 m. wide and 18 ft. deep; s. of it is

CHARLESTON.

Morris Island, 5 m. by 3. The passage is defended on the right by fort Moultrie on Sullivan's Island, on the left by Fort Sumter, and nearer the city by Castle Pinckney and Fort Ripley, the latter built 1862. The outer harbor extends 6 m. from Sullivan's Island to a lighthouse with a light 133 ft. above the sea, which may be seen for 20 m.; lat. $32^{\circ} 42' n.$, long. $79^{\circ} 52' w.$ There is a beacon, and six others are within the harbor. The bar is somewhat dangerous from shifting quicksands; there are four channels, with a maximum depth of 16 ft., originally, which has been increased by the construction of jetties from Sullivan's to Morris Island. C. stands on low and level ground, appearing to rise from the sea; the tower of St. Michael's Church, built 1752, and conspicuous from the entrance of the middle channel, was spared during the war, to be injured by the earthquake of 1886. Many fine buildings suffered with it, or in the events of 1861-65. The city is triangular in shape, with an area of over 5 sq. m.; it has 53 m. of streets, and 9 m. of water front. The streets are well laid out, paved, lighted, and shaded; the chief are King and Meeting, which run n. and s. the length of the city, and converge near its n. end. They are crossed by narrower ones running from Cooper to Ashley river. The buildings are far from uniform, and interspersed with gardens. Parks and open squares are few and small; but Magnolia cemetery, just outside C. on the n., is celebrated. In one of the city church-yards are the graves of Gadsden, Rutledge, Pinckney, and Calhoun. Among the finest edifices are the city hall, the custom-house, the orphan house, the arsenal, and the academy of music; the latter cost \$160,000. Many of the handsomest residences adjoin the Battery, near the water. The mean winter temperature is about 48° , that of summer 81° . The S. C. railroad connects C. with Augusta, Ga., w.n.w., the Savannah and C. with Savannah, 82 m. s.w., and the Northeastern with Florence and other places n. Lines of steamers ply to New York, Boston, Philadelphia, Baltimore, Savannah, Fla., and points on the S. C. coast. The Santee canal, 22 m. long, connects with the Santee river., n. C. is the port of a naturally rich section, which produces abundant cotton and rice. Besides great quantities of these, many naval stores and much bone-phosphate are exported. The manufacturing interests of C. are inferior to the commercial, and most important in fertilizers and in the preparation of rice. There is a large wholesale trade. Of late years C. has been assessed on property variously rated from \$50,000,000 up. C. has 8 wards, a fire dept., a street railway, a chamber of commerce, a board of trade, 12 banks, 8 newspapers, 20 lodges of freemasons and odd-fellows, 39 churches, a Rom. Cath. convent school, a high-school and 8 public schools, a college founded 1787, the S. C. Medical College with 12 professors, a literary and a scientific society, a library society founded 1748, with 14,000 vols., and an apprentices' library. Pop. (1800) 18,711; (1810) 24,711; (1820) 24,780; (1830) 30,289; (1840) 29,261; (1850) 42,985; (1860) 40,519; (1870) 48,956, of whom 22,749

CHARLESTON.

were colored and 4,892 foreigners; (1880) 49,984, 25,994 being colored; (1885) 60,145; (1900) 55,807. The proportion of negroes, always large in the state, has steadily increased in the city since the war; the excess in their numbers is due to the abundance of young children. The history of C. possesses interest and importance. It was settled 1680 by an English colony under Wm. Sayle, but did not attain much commercial prominence for near a century. In the revolution it was the first and among the most active of the southern towns to strike for independence. It was unsuccessfully attacked by the British 1776 and 1779, taken 1780, May 12, after a six weeks' siege by Sir H. Clinton and 12,000 regulars, and evacuated 1782, Dec. 14. It was the state capital till 1790. The winter residence of many of the proudest families in the s., it produced not a few men who took a prominent part in national affairs, and was the centre of the nullification movement 1830. Here, amid immense local enthusiasm, the national democratic convention split in two 1860, Apr., and the plan of secession was foreshadowed. Here civil war was begun by the bombardment of Fort Sumter, 1861, Apr. 12. 1861, Dec., a fire destroyed near half the city. In spite of obstructions and Federal ships, blockade-running was carried on extensively 1861-2. Though successfully defended till 1865, Feb., C. was a special object of desire and attack. Admiral Dupont with 9 ironclads and 30 guns entered the harbor 1863, Apr. 6. but was driven off next day by a concentrated fire from the forts. A few months later Morris Island was occupied by Gen Gillmore, Fort Sumter silenced, and C. bombarded. A number of Union officers, prisoners, were placed in the more exposed part of the city, under fire of their own guns. 1865, Feb. 17, C. was evacuated, and the stores, public buildings, cotton warehouses, and shipping fired by Gen. Hardee: the Union troops, entering next day, put out the flames. During the war the city was largely wrecked, the harbor partially filled, and business wholly paralyzed. Gradually recovering from these injuries, C. suffered from a cyclone, 1885, Aug. 25, and was subjected, 1886, to a series of 30 earthquake shocks, beginning Aug. 27 and lasting till Sep. 30. Two of these in close succession on the night of Aug. 31, killed over 40 persons, wounded many more, damaged a majority of the houses, and ruined a great number, causing a loss of property estimated at \$5,000,000. Profound sympathy for the afflicted city was expressed in all parts of the land, and some \$800,000 forwarded for its relief, including near \$18,000 from England and other foreign countries.

CHARLESTON: capital of West Virginia and of Kanawha co., on the right bank of the Kanawha at its junction with the Elk, 130 m. s. by w. of Wheeling and 233 m. w. by n. of Richmond. The valley yields coal, iron, and hard-wood timber, for which C. is the central and distributing point. Beside the Chesapeake and Ohio railroad, the Kanawha and Ohio railroad connects C. on the n. side of the river with Toledo and the northwest *via* Corning, O. C. has several foundries, iron- and saw-mills and factories, two

CHARLESTOWN.

banks, two daily and two weekly newspapers, eight churches, a Rom. Cath. seminary, U. S. court, custom-house and post-office building (cost \$123,000), state-house building (cost \$500,000), and a public-school building (cost \$80,000). It is deriving great benefit from the improvement (by locks and dams) of the Great Kanawha river by the govt., on which \$1,500,000 have been expended, completing five locks, and for which an additional appropriation of \$300,000 was made in the River and Harbor Bill of 1888. The river here is 130 yds. wide, and is navigable to its mouth 60 m. n.w. C. is an attractive city, beautifully situated, and has water-works, gas-works, and electric light. Pop. (1870) 3,162; (1880) 4,192; (1900) 11,099.

CHARLES'TOWN: northern suburb of Boston, Mass., with which it was incorporated 1874, Jan. 5. It is situated on a peninsula $1\frac{3}{4}$ m. long between the Charles and Mystic rivers, connected with the mainland by a narrow neck or isthmus, with Boston by two bridges, built 1786 and 1828, and with Chelsea, East Cambridge, and Malden by other bridges. The Eastern, Fitchburgh, and Boston and Maine railroads through it. C. was begun 1628; its Indian name was Mishawun. Winthrop's colony, arriving 1630, occupied its site for a few months, and founded the first church here, before they settled Boston. It grew in importance during the colonial period, and has an interesting subsequent history. Bunker Hill—or properly Breed's Hill, 700 yards from Bunker and connected with it by a ridge—became famous by the battle 1775, June 17, when the town was destroyed, partly by shells from Copps' Hill in Boston, and partly by British soldiers sent to fire it; nearly all the inhabitants had left previously, but the loss of property was over \$500,000. It was rebuilt, and grew rapidly. The corner-stone of the Bunker Hill monument was laid 1825, and the shaft finished 1843; its top, 221 ft. high, affords a commanding view. Three streets, Main, Bunker Hill, and Medford, extend the length of the peninsula, join at the neck, and lead to Somerville; they are crossed by others running from the Mystic to the Charles. C. is well built in the main, though irregularly laid out in its s. portion. At the w. end, upon the water, stands the state prison, erected 1805, and since then much enlarged; it has 650 cells and some 38 officers, and is one of the best managed in the country, the earnings of the convicts, who are worked on the congregate system, nearly cover its expenses. The navy-yard, established in 1798, is one of the largest in the U. S.; it extends from one river to the other, covering over 70 acres, is capable of employing 2,000 men, and contains some \$10,000,000 worth of government stores; it has machine-shops, cannon-foundries, three ship houses, a ropewalk nearly 1,300 ft. long, and a granite dry-dock 341 ft. long, 80 ft. wide, and 60 ft. deep, which was opened 1833 at a cost of \$670,000. C. has manufactures of steam boilers, cabinet ware, etc., a gas company, a fire insurance company, a large ice trade, two national banks, two savings banks, a fire dept., an excellent school system, 13

CHARLET—CHARLOCK.

churches, a public library established 1869, a poor fund founded 1674, a benevolent society organized 1819, and other charities. It is supplied with water from Mystic lake, five m. n.w.; the water-works were completed 1864 at a cost of \$1,461,259, and are worked at a profit. Prior to its annexation by Boston C. contained three wards and was governed by a mayor with three aldermen and six common councilmen from each. Pop. (1800) 2,751; (1810) 4,959; (1820) 6,591; (1830) 8,783; (1840) 11,484; (1850) 17,216; (1860) 25,065; (1870) 28,323, of whom 6,924 were of foreign birth. Mr. R. Frothingham wrote a *History of Charlestown* 1848.

CHARLET, shár-lé', NICOLAS TOUSSAINT: 1792–1845; b Paris: painter and engraver. He was for some years employed as a clerk in a govt. office, but lost his place at the restoration, 1815, on account of his Bonapartism, and took himself to art. After studying under Gros, he gradually formed for himself a style in which he had no rival. C. is the Béranger of caricature, but without the political bitterness and sarcasm sometimes found in the poet. His genial sketches of French life and manners were studied with equal admiration in the salons of the aristocracy and in the ateliers, barracks, taverns, etc., of the lower classes. C. was especially successful in his sketches of soldiers and children. His designs are free from exaggeration, while full of spirit, interest, and naïveté; and his titles or mottoes were often so witty and suggestive, that dramatic writers have founded pieces upon them. His sketches and lithographs are very numerous and widely distributed. Among his paintings, the most remarkable are: *An Episode in the Russian Campaign* (in the museum at Versailles); *Moreau's Crossing of the Rhine* (at Lyon); and a *Procession of the Wounded* (at Bordeaux).

CHARLEVILLE, shár-le-vé'l': town of France, dept. of Ardennes, about a mile from Mezières, with which it communicates by a suspension-bridge over the Meuse. It is a thriving place, well built, with clean, spacious streets. It has manufactures of hardware, leather, and beer, and the Meuse affords facilities for considerable trade in coal, iron, slate, wine, and nails. Pop. (1881) 15,206, (1891) 17,390.

CHARLEVOIX, shár-léh-vwá', or shárl-vwá, PIERRE FRANÇOIS XAVIER DE: 1682–1761; b. St. Quentin. He entered the Society of Jesus, 1698, taught in the College of Quebec, 1705–09, and was afterward prof. of belles lettres in France. He travelled much in the Jesuit interest, and was again in America, 1720–22, going up the St. Lawrence and the lakes, and down the Illinois river, and the Mississippi to the Gulf and home by way of Santo Domingo. His *Histoire de la Nouvelle-France* appeared 1744, and in an English version by J. G. Shea (6 vols. New York 1865–72). C. also wrote histories of Japan (1715), Santo Domingo (1730), and Paraguay (1756), and a *Life of Mother Mary, Superior of the Ursulines at Quebec* (1824). He was one of the directors of the *Journal de Trévoux*, 1733–55.

CHARLOCK, n. chár'lók [AS. cerlice; lock, meaning

CHARLOIS—CHARLOTTESVILLE

*leek: prov. Eng. kerlock]: a wild plant of the mustard family—also called *kedlock*; a troublesome weed among corn, the *Sinapis arvensis*, ord. *Cruciferae*: see MUSTARD.*

CHARLOIS, *shár-lwá'*: village of the Netherlands, on the Maas, about two m. s.s.w. of Rotterdam. It is memorable for a terrible accident which occurred here, 1512, when a religious procession, crossing the ice in defiance of magisterial prohibition, 8,000 of them were precipitated into the Maas. Pop. 2,000.

CHARLOTTE, *shár'lot*: city of N. C., cap. of Mecklenburg co.; on Sugar creek, 125 m. w.s.w. of Raleigh. It is on the Wilmington Charlotte and Rutherford R. R.; the Charlotte Columbia and Augusta and the N. C. div. of the Richmond and Danville have their termini here. Here the Mecklenburg 'Declaration of Independence,' was adopted 1775, May 31. The town was occupied by the British 1780, and was afterward the American headquarters. C. is in the N. C. gold region, and partially dependent on the mines. A branch mint was established 1838, and when closed, 1861, had coined over \$5,000,000: it was reopened 1869, but under the coinage act of 1873 became a mere assay office. C. has several cotton mills, three banks, eight newspapers, and three academies. Pop. (1870) 4,473, of whom 1,880 were colored; (1880) 7,094. (1890) 11,557; (1900) 18,091.

CHARLOTTE AMALIE, *shár-löt' á-má'lē-éh*: chief, or rather only, town of St. Thomas, one of the Virgin group of the Antilles; lat. $18^{\circ} 20'$ n., long. $64^{\circ} 55'$ w. It contains nearly three-fourths of the entire population of the colony. It has a spacious harbor, which, besides being largely visited by European ships in general, is a principal station for the mail-packets between Southampton and the West Indies. Pop. 11,400.

CHARLOTTE HARBOR, or BOCA GRANDE: inlet in Manatee co., Fla., on the w. coast. It is about 25 m. long, 8 to 10 m. wide, and has a maximum depth of 10 to 12 ft.; the entrance, between Boca Grande Key and Gasperilla Bay, is $\frac{1}{2}$ m. wide and abt. 35 ft. deep. Islands shelter it from the sea; it yields fish, oysters, and wild-fowl. Cattle are exported from this region to Key West.

CHARLOTTENBURG, *shár-löt'en búrg*: town of Prussia, province of Brandenburg, on the Spree, three m. w. of Berlin, with which it is connected by a road leading through the *Thiergarten*, and affording a favorite promenade to the Berliners. C. contains a royal palace, with a fine garden and splendid orangery, and an interesting collection of antiquities and works of art. In a beautiful part of the park a mausoleum, designed by Schinkel, contains the remains of Frederick William III. and his wife, the queen Luise, with their statues by Rauch. C. has manufactures of cotton and hosiery. Pop. (1871) 19,518; (1880) 30,446; (1885) 42,371; (1890) 76,859; (1900) 189,305.

CHARLOTTESVILLE: capital of Albemarle co., Va., on Moore's creek, two m. above the Rivanna river, 97 m. w.n.w. of Richmond; on the Chesapeake and Ohio R. R.

CHARLOTTE TOWN—CHARNEL.

61 m. n.n.e. of Lynchburg by the Orange Alexandria and Manassas. C. has seven churches, an academy, three newspapers, four banks, and a few factories. Monticello, Jefferson's home, is within three m., and one m. w. is the Univ. of Va., founded by Jefferson, 1819, with buildings which cost \$200,000. Pop. (1880) 2,676; (1900) 6,449, of whom about half are colored. The township has some 11,000 inhabitants.

CHARLOTTE TOWN, *shár'lot town*: capital of Prince Edward Island, in the Gulf of St. Lawrence; lat. $46^{\circ} 15'$ n., and long. $63^{\circ} 7'$ w. The port is the best in a colony which, in proportion to its size, is remarkable for navigable facilities. The town stands on the s.e. coast at the inner end of Hillsborough bay, and at the confluence of three rivers, which each admit the largest vessels for several miles, where there is security from all weather. The harbor is rendered still more commodious through the strength of the tides, which enable ships to work out and in against the wind. C. T. has an iron foundry and a woolen factory, and is largely engaged in ship-building. Pop. (1901) 12,080.

CHARM, n. *chárm* [F. *charme*; It. *carme*, a charm, a spell—from L. *carmen*, a song: Gael. *seirm*, music: Pers. *shirim*, songs—*lit.*, to enchant or hold spell-bound with music]: properly, a form of words, generally in verse, supposed to possess some occult power of a hurtful, a healing, or a protective kind, which they exert either by being recited, or by being written and worn on the person; and, in this latter case, they may be classed with Amulets (q.v.; see also INCANTATION: MAGIC); anything supposed to possess a magic power or spell; that which can subdue or delight: V. to subdue or control; to exercise irresistible power over; to please or delight greatly; to yield exquisite pleasure to the mind or senses; to fortify against evil. CAAR'MING, imp.: ADJ. pleasing in the highest degree. CHARMED, pp. *chárm'd*, greatly delighted: ADJ. *chár'méd*, enchanted; protected by charms. CHAR'MER, n. *chár'mér*, one who has the power of charming; an object of love. CHARM'LESS, a. without charms. CHARMS, n. plu. what pleases irresistibly; that which delights and attracts, as beauty, music, conversation. CHAR'MINGLY, ad. *-lī*, in a manner to please exceedingly. CHAR'MINGNESS, n.—SYN. of 'charm, v.': to enchant; fascinate; enrapture; captivate; allure; delight; bewitch; subdue; enslave.

CHARNEL, a. *chár'nél* [OF. *charnier*, a churchyard—from F. *chair*—from L. *carnem*, flesh]: containing flesh or carcasses. CHARNEL-HOUSE, n. a place in or near some burial-grounds in which the bones of the dead thrown up by the grave-diggers were deposited. The C. was generally vaulted in the roof, and was often a building complete in itself, having a chapel or chantry attached to it. In such cases, the charnel-vault was commonly a crypt under the chapel; and even in churches it was not uncommon for the vault or crypt to be employed as a charnel-house. The term is applied also to a place where too many dead bodies are crowded together.

CHARNOCK—CHARR.

CHARNOCK, *chár'nok*, STEPHEN, D.D.: 1628–80, July 27; English nonconformist. He was educated at Emmanuel College, Cambridge, obtained a fellowship at New College, Oxford, preached in London and Dublin, and after the restoration at private assemblies in England. His works were published by Adams & Veel, 2 vols. folio, 1682–83, reprinted 9 vols. 8vo. 1815, and again 1866. C. stands high among Calvinistic divines. Toplady credited him with ‘metaphysical sublimity and evangelical simplicity, immense learning but irrefragable reasoning.’ His *Discourses on the Attributes* are still praised.

CHARON, n. *kā'rōn*: in *classical myth.*, the son of Erebus (darkness), and Nox (night); mentioned first by the later writers of Greece. His duty was to ferry the shades of the buried dead across the rivers of the under-world. For this service he exacted an *obolus* from each, and in consequence a coin of this kind was placed in the mouth of the dead. If this rite was neglected C. refused to convey the unhappy shade across, and it was doomed to wander restlessly along the shores of Acheron. C. is generally represented as a gloomy old man, with a rough beard and wretched clothes. In the Etruscan monuments he holds a hammer.

CHARPIE, n. *shárp'ē* [F. *charpie*, lint compress]: the fine flock obtained by scraping linen rags or lint; a coarse kind of lint or tow, used for absorbing blood, matter, and the like.

CHARPOY, n. *chár'poy* [Hind. *char*, four; *páe*, legs]: in India, a rude bedstead on four legs, with a mattress woven from strips of cloth, fibre, and the like.

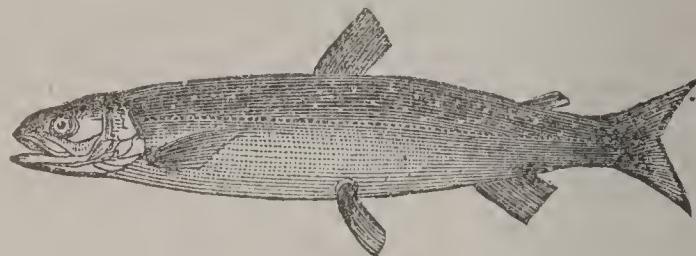
CHARQUI, n. *chárkē* [from a native name]: the S. America term which gave rise to the Eng. term *jerked beef*; beef or flesh cut into long strips and dried in the sun.

CHARR, *chár* (*Salmo umbla*): a fish of the same genus with the salmon, occurring in the lakes of Britain and of the continent of Europe. It is abundant in the lakes of Cumberland and Westmoreland, and in some of those of Ireland, of the n. of Scotland, and of Orkney, but in the greater number of the Scottish lakes it is not found. It is the celebrated *ombre chevalier* of the lake of Geneva.

It is found sometimes weighing more than two lbs., but is generally under one lb. in weight. It has only the anterior part of the *romer* (the middle line of the palate) furnished with the teeth, agreeing in this with the salmon and bull-trout, and differing from the common trout, salmon trout, etc. The form is elongated, the greatest depth of the fish is about one-fifth of the entire length; the fins are rather small; the tail deeply forked; the color of the back dark olive; the sides lighter and spotted with either red or white, according to the condition in which the fish is at the time, the belly also being sometimes deep orange, and sometimes of a pale color, these, and other accidental variations, causing the fish to receive different names, such as *Casé C.*, *Red C.*, *Gilt C.*, *Silver C.*, and having led

CHART—CHARTACEOUS.

some naturalists to believe in the existence of different species. It is not yet quite certain whether the *Torgoch* or *Red-belly*, of Wales (*Salmo salvelinus* of some authors), ought to be regarded as distinct or as a mere accidental variety. It is the most delicious, perhaps, of the *Salmonidæ*; also the most beautiful, its rich purple, rosy, and crimson tints and white spots rendering it a brilliant and striking object. During summer the C. frequents chiefly deep, cool water, and is seldom seen at the surface till late in autumn. It feeds on insects and minute crustaceans. In the end of autumn or beginning of winter it ascends rivers to spawn, always choosing those which have a rocky bottom. Whether in lake or stream it is found only in clear waters. Unfortunately the C. of the English lakes is taken in great



Charr (*Salmo umbla*).

numbers, by nets, at the mouths of streams, when about to ascend them in order to spawn, and when not in the best condition for the table.

On some lakes vast quantities are then caught for the table, particularly for the purpose of potting. In a lake which abounds in C. one of them is now and then taken by the angler for trout. The C. will, too, occasionally take a minnow, if sunk deep and trailed slowly; but the sport it affords is precarious. C. are fast diminishing in the English lakes which they still inhabit, owing to the indiscriminate slaughter which occurs at the spawning season. A large kind of C., sometimes reaching four lbs. in weight, is found in some of the more northern Swedish lakes.

CHART, n. *chárt* [L. *charta*, paper: Gr. *chartēs*: It. *carta*: F. *carte*]: a map of any part of a sea or river for the use of navigators; the representation of a ship's course; a map of the waters of the globe or any portion of it, with the islands, coast-lines, soundings, currents, etc.; a map (q.v.). Navigating charts, showing the dangers of coasts with sufficient clearness to enable mariners to avoid them, are usually on a scale of half-an-inch to a mile; those of larger size show all the intricacies of the coast. **CHART'LESS**, a. without a chart. **CHARTOGRAPHY**, n. *chár-tōg'rū-fí* [Gr. *grapho*, I write]: the art of constructing maps or charts. **CHARTOGRAPHER**, n. *chár-tōg'rā-fer* [L. *charta*, paper; Gr. *grapho*, I delineate, I write]: a constructor of charts or sea-maps. **CHAR'TOGRAPH'IC**, a. *-tō-gráf'ik*, relating to charts.

CHARTA, MAGNA: see MAGNA CHARTA.

CHARTACEOUS, a. *chár-tā'shūs* [L. *charta*, paper: Gr. *chartēs*]: in bot., resembling paper; thin; flexible.

CHARTE.

CHARTE, *shârt* [see CHARTER, which is the English term corresponding]: French word signifying a system of constitutional law, embodied in a single document. Whether any system of positive public law existed in ancient France is, in that country, a subject of keen dispute among constitutional antiquaries. If any such there was, there seems little doubt that it was the mere embodiment of traditions, and not the result of any single act of the national will. While France was divided into provinces and communes, local liberties and privileges unquestionably existed; but where the nation constituted no single body, a constitutional charter was impossible. The first traces of such a C. appear in the 14th c.; and it is known in the history of the public law of France as the *Grand Charter*, or the charter of King John. Up to this time, the kings had called together only partial assemblies, but in 1355 deputies from the whole kingdom were assembled in the hall of the parliament of Paris. The nobility and clergy, secular and regular, were represented by 400 deputies, the commons or third estate by a like number. This body assumed to itself the initiative, and prepared a species of constitution, which was accepted by the king. The chief triumph of the third estate on this occasion consisted in carrying through the doctrine that the decision of any two estates should be invalid without the concurrence of the third. The three orders, who seem to have composed but one assembly, then proceeded to impose a series of restrictions on the power of the monarch, which, confirmed by the dauphin two years later, formed the foundation for the liberties subsequently asserted at the Revolution.

But the constitution to which the term C. is most frequently applied by the French and by us, is that in which Louis XVIII. solemnly acknowledged the rights of the nation on his restoration in 1814. This C. has ever since been considered the fundamental law of constitutional monarchy when that form of government has existed in France. In some of its provisions, however, and still more in the mode of its acceptance by the monarch, as 'a voluntary and free act of our royal authority,' and as 'a concession made to,' not a contract entered into with, his subjects, it was open to the misconstructions which eventually led to the revolution of 1830. The charte sworn to on Aug. 29 of that year by King Louis Philippe modified this and some of the other provisions of that of 1814. On that occasion the king explicitly recognized the sovereignty of the people. This document, which, with some modifications, remained in force till the revolution of 1848, is important, not only from its bearing on the past history, and possibly on the future of France, but from the analogies which it presents to other constitutions, notably the British.

It consisted of 67 articles, divided into 7 heads. Of these the 1st head, containing 11 articles, treated of the public rights of the French people. It provided for the equality of all Frenchmen—a doctrine which it inherited from the revolution, and which it unfortunately left to be understood in a sense inconsistent with monarchy, and

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indeed with any other form of government than pure democracy (see EQUALITY); for their equal admissibility to all employments, civil and military, and for their freedom from arrest, otherwise than by legal process. It guaranteed the enjoyment of religious liberty, and the payment of the ministers of all Christian denominations—a privilege which in 1831 was extended even to Jews. The liberty of printing and publishing was insured, the censorship of the press and conscription were abolished, an amnesty for all political offences was proclaimed, and the security of property guaranteed, except when its sacrifice should be requisite for the public good, in which case it was declared that the owner must be indemnified. The 2d head set forth the nature and limitations of the kingly power in eight articles. The supreme executive power, the command of the army and navy, and the right of making war, and treaties of peace, alliance, and commerce, were reserved to the monarch. To him, also, it belonged to nominate to all offices of public administration, to make all necessary regulations for the execution of the laws, but in no case to suspend them or dispense with them. The high duties of legislation were shared between the king, the chamber of peers, and the chamber of deputies; it being provided that every law should be agreed to by a majority of each chamber, and sanctioned by the king. Any one of the three branches of the legislature might originate any bill, except a money-bill which was reserved for the chamber of deputies, as for the house of commons in England. The third head contained ten articles regarding the chamber of peers, the nomination of whom was vested in the king (the princes of the blood being peers by right of birth). No limit was set to their number; but by the law of 1831, Dec. 9, incorporated in the C., it was declared that their dignity should be for life only. The chancellor of France was president. The chamber of peers assembled simultaneously with that of the deputies, and its sittings were public. The personal privileges of the peerage, as they exist in England, were introduced. The 4th head, concerning the chamber of deputies, contains sixteen articles. It provides for the election of the deputies and the sittings of the chamber. The electoral qualification is declared to be the payment of 200 francs of direct taxes, while that of a deputy is the payment of 500. The voting is by ballot, both at elections and in the chambers. The number of deputies, at first 430, was afterward raised to 459. Each deputy was elected for five years, and one half of those for each department were required to have their political domicile within it. The C. became a nullity by the revolution of 1848, Feb.; and by the new constitution promulgated Nov. 4 of that year, the monarchy of France was converted into a democracy. By chapter 4 of that document, the legislative power was vested in a single assembly of 950 members, including the representatives of Algeria and the other colonies. The property electoral qualification was abolished, and the age reduced for electors to 21 years, and for delegates to 25. The period of three years was fixed for

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the continuance of the national assembly. By chapter 5, the executive power was intrusted to a citizen who was to bear the title of president. He was not to be less than 30 years of age, his tenure of office was to be four years, and he was not to be re-eligible until after an interval of four years. For an account of the subsequent changes by which these and the other arrangements adopted at the revolution of 1848 have since been superseded: see FRANCE.

CHARTER, n. *chár'tér* [F. *chartre*, a charter—from L. *char'tula*, a dim. of *charta*, paper]: any written paper or document conferring privileges or confirming rights; privilege; exemption: V. to hire or let a ship under a written agreement. CHARTERING, imp. CHARTERED, pp. -*terd*: ADJ. acting under a charter; privileged. CHARTIST, n. *chár'tist*, one of a body of political agitators who demand certain radical changes in the government.

CHAR'TER: in most general signification, an official instrument, or document, establishing rights and privileges; a deed evidencing a transaction. In private law, its most important use is in the alienation of real estates, the writing given to the new proprietor by the old, in proof of the transference title, being often called a charter: see TENURE OF LAND. In public law, the name is given to those formal deeds by which sovereigns guarantee the rights and privileges of their subjects, or by which a sovereign state guarantees those of a colony or other dependency: see CHARTE: MAGNA CHARTA. There is another sense of the term, in which it is in a measure intermediate between the two above mentioned—viz., where we speak of the C. of a bank or other company or association. In this latter sense it signifies an instrument by which powers and privileges are conferred by the state on a select body of persons for a special object: see BANK: CORPORATION: JOINT-STOCK COMPANY: etc. For the requisites of a C., in private law, see DEED.

ROYAL CHARTERS, generally written in Latin, are of two kinds: I. Grants of lands, houses, honors, or liberties to persons who did not previously possess them; II. Charters confirming grants previously made, therefore called 'Charters of Confirmation.' Confirmation charters are of three kinds: 1. Charters confirming previous grants, without reciting them; 2. Charters of simple confirmation, without addition of anything new; 3. Charters reciting previous charters and confirming them, with addition of something new. These last two classes of charters are called charters of 'Inspeximus,' or 'Vidimus,' from the word used by the grantor in saying that he has seen the C. which he confirms. Royal charters generally contain seven clauses: 1. The 'Premises,' i.e., the name and style of the grantor, the persons to whom the C. is addressed, the name and style of the grantee, the reason why the grant is made, and the description of the thing granted; 2. The 'Tenendum and Habendum,' i.e., the way in which the thing granted was to be held and had; 3. The 'Redendo,' the return of rent or service which was to be made to

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the granter by the grantee ; 4. The ‘Quare Volumus,’ or order that the grantee should have the thing granted, under certain penalties ; 5. The ‘Sealing’ or ‘Signature’ clause, setting forth the seal, signature, or subscription by which the C. was authenticated ; 6. The ‘Hiis Testibus,’ or testing-clause, enumerating the persons who were present as witnesses when the C. was granted ; 7. The ‘Date,’ setting forth the time when, and the place where, the C. was granted.

CHARTER, in the law of Scotland, is the written evidence of a grant of heritable property, under the conditions imposed by the feudal law—viz., that the grantee, or person obtaining, shall pay at stated periods a sum of money, or perform certain services to the granter, or person conferring the property.

Charters are either blench or feu, from the nature of the service stipulated—*a me* or *de me*, from the kind of holding or relation between the granter and grantee ; and original or by progress, from being first, or renewed, grants of the subjects in question.

Blench and Feu Charters.—The duty which the superior required of his vassal in former times was almost always military service, and the vassal was then technically said ‘to hold ward’—to hold on condition of warding or defending his superior. But subsequent to the rebellion of 1745, in which the dangerous tendencies of the feudal relation were experienced, this holding was abolished (20 Geo. III. c. 50), and the only duties which it has since been lawful to insert in C. are *blench* and *feu* duties. The former is a merely nominal payment—a penny Scots, a red rose, or the like, *si petatur tantum* (should it be asked); the latter is a consideration of some real value. Original blench C. having lost all object, and having no other effect but that of subjecting superiors to considerable expense in keeping up their titles, have become rare in modern practice. The forms of charters varying according to the circumstances in which they are granted, and the relations established between the granter and grantee, are of a highly technical nature.

CHARTER-HOUSE, n. *chár'tér-hows* [a mere corruption of *Chartreuse*, a town in France, the original seat of the Carthusians] : name of a famous hospital, chapel, and public schoolhouse. Till 1872, the buildings were close together in Charter house Square, London ; but in that year the school was transferred to Godalming in Surrey. The C. was instituted, 1611, by Sir Thomas Sutton, of Camps Castle, county of Cambridge. It had originally been a Carthusian monastery (founded 1371), but on the dissolution of monastic establishments by Henry VIII., it was made a place of deposit for his nets and pavilions. After undergoing many alterations, and passing into the possession of various distinguished persons, it was finally purchased from Lord Suffolk, for £13,000, by Sir Thomas Sutton, who endowed it with the revenues of upward of 20 manors, lordships, and other estates, in various part of England. This ‘masterpiece of Protestant English chari-

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ty,' as old Fuller calls it, serves three uses—it is an asylum for poor brethren, an educational and a religious institution; hence Bacon terms it a 'triple good.' The *poor brethren* are 80 in number. None are admitted under 50 years of age, and only those who have been housekeepers are eligible. Each brother has a separate apartment, a share of attendance from domestics, an ample, though plain diet, and an allowance of about £26 a year for clothes and other matters, and four weeks' holiday every autumn. The brethren must be bachelors and members of the Church of England. Among the poor brethren in bygone years were Elkanah Settle, the antagonist of Dryden; John Bagford, the antiquary; Isaac de Groot, a descendant of Grotius; and Alexander Macbean, who assisted Johnson in the preparation of his dictionary. The *scholars* are 60 in number, admissible between the ages of 11 and 15. They are understood to be 'the sons of poor gentlemen to whom the charge of education is too onerous'; but, as in the case of the *poor brethren*, it is not always the proper parties who are chosen. There are exhibitions, scholarships, and medals competed for at certain times by the scholars. In addition to the scholars properly so called, i.e., such as receive a free board and education, a large number of youths are sent to the C. school because of its reputation. These either board with the masters, or simply attend during the day. The number of extra boarders is nearly double that of the scholars. The institution is under the direction of the Queen, 15 governors, selected from the great officers of state, and the master himself, whose salary from the foundation is £800 per annum. Among eminent persons educated in this establishment, are Dr. Barrow, Judge Blackstone, Addison, Steele, John Wesley, Bishop Thirlwall, George Grote, W. M. Thackeray, and Sir Charles Eastlake.

In 1872, when the C. school removed to Godalming, the school premises were sold to the Merchant Tailors' School, which is now installed here in handsome new school buildings, erected 1875. The quaint old C. hospital and chapel still remain on the old site. The chapel contains Sutton's tomb, which was opened and examined in 1842.

CHARTER OAK: tree near Hartford, celebrated in colonial history. Sir Edmund Andros, gov. of New England and N. Y., came, 1687, by order of James II. to demand the charter of Conn.; but the document could not be surrendered, for Capt. James Wadsworth had hidden it in a hollow of this tree. The oak was blown down in a gale 1856, August.

CHARTER-PARTY [F. *chartre-partie*—so called from such documents being at one time divided—in F. *parti*—and one half given to each party concerned]: contract, of which two copies are written, in which the owner, or master of a ship, with consent of the owner, lets the vessel, or a portion of her, to a second party, for the conveyance of goods from one port to another port; hence the vessel is said to be *chartered*. The document must specify the

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voyage to be performed, and the terms on which the cargo is to be carried. On the part of the ship, it is covenanted that she shall be sea-worthy; well-found in rigging, furniture, and provisions; and that the crew be suitable in number and competency; that she shall be ready to receive the cargo on a given day, wait its complete delivery for a certain period; and sail for the stipulated port when laden, if the weather for the time permits. The freighter's portion of the contract obliges him to load and unload at suitable periods, under specified penalties, and to pay the freight as agreed on. The master must not take on board any contraband goods, or otherwise render the vessel liable to seizure. The owner is not responsible for losses caused by war, fire, or shipwreck, unless arising from negligence of the master or crew.

CHARTIER, *shár-te-ā'*, ALAIN: abt. 1385-1449: poet; b. Bayeux. His life is involved in obscurity, but according to the most probable traditions he studied at the Univ. of Paris; was in the service of Charles VI. and then in that of the dauphin, afterward Charles VII., who used him as clerk, notary, and sec. of finance; was also archdeacon and prebendary of Nôtre Dame, and went as envoy to Scotland. In appearance he was deemed the ugliest man of his time, but Margaret of Scotland is said to have kissed him on 'the precious mouth whence have come so many *bon mots* and moral sentences.' Pages and students were required daily to learn by heart passages of his *Bréviaire des Nobles*. His fame, which in his life time surpassed that of any contemporary, has since been eclipsed, and revived but imperfectly. His best books are said to be *Le livre des Quatre Dames*, occasioned by the battle of Agincourt, and *Le Quadriloque-Invectif* (1422). A 'bibliographic and literary study' of C., by Mancel, appeared in Paris 1849.

CHARTISM.

CHARTISM, *chârt'izm*: movement in Great Britain for the extension of political power to the great body of the people, arising in a great measure out of widespread national distress and popular disappointment at the results of the reform bill. Prior to 1831, the middle classes had sought popular aid toward obtaining their own enfranchisement. The assistance was given, the people expecting to receive help in their turn. After the passing of the reform bill agitation ceased for a time, and the members returned to parliament were indifferent, or opposed, to any further change in the political arrangements of the country. The middle classes were satisfied with their own success, and generally looked with small favor on projects for the further extension of political influence among the masses. A season of commercial depression set in about 1835, and failing harvests for several years terribly increased the sufferings of the people. Food became dear, wages fell, manufactories were closed, work became scarce. The people associated their sufferings with their want of direct influence upon the government, and agitation for an extended franchise began. In 1838, a committee of six members of parliament and six workingmen prepared a bill, embodying their views as to what were just demands on the part of the people. This was the 'People's Charter.' It claimed—1. The extension of the right of voting to every (male) native of the United Kingdom, and every naturalized foreigner resident in the kingdom for more than two years, who should be 21 years of age, of sound mind, and unconvicted of crime; 2. Equal electoral districts; 3. Vote by ballot; 4. Annual parliament; 5. No property qualification for members; and 6. Payment of members of parliament for their services. This programme was received with enthusiasm. Immense meetings were held all over the country, many of them being attended by two or three hundred thousand people. Fiery orators fanned the popular excitement, and under the guidance of the extreme party among their leaders, physical force was soon spoken of as the only means of obtaining justice. The more moderate and thoughtful of the chartists were overruled by the fanatical and turbulent spirits, and the people, already aroused by suffering, were easily wrought into frenzy by those who assumed the direction of their movements. In the autumn of 1838, torchlight meetings began to be held. The danger of these meetings was obvious, and they were at once proclaimed illegal. Some of the more prominent leaders were arrested, amid intense popular excitement, and subjected to various terms of imprisonment. A body calling itself the national convention, elected by the chartists throughout the kingdom, commenced sitting in Birmingham in 1839, May. It proposed to the people various means of coercing the legislature into submission, recommending, among other things, a run on the savings-banks for gold, abstinence from excisable articles, exclusive dealing, and in the last resort, universal cessation from labor. During its sittings, a collision took place with the military in Birmingham. Pub.

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lic meetings were forbidden, and alarming excesses were committed by the irritated mob. In 1839, June, a petition in favor of the charter was presented to the house of commons, signed by 1,280,000 persons. The house refused to name a day for its consideration, and the national convention retaliated by advising the people to cease from work throughout the country. Fortunately, this advice was not followed, but the disturbance in the public mind increased, and in November, an outbreak at Newport took place, which resulted in the death of ten persons and the wounding of great numbers. For taking part in this wild insurrection, three of its leaders were sentenced to death, but their punishment was afterward commuted to transportation. In 1842, great riots took place in the northern and midland districts, not directly caused by the chartists, but encouraged and aided by them after the disturbances began. In the same year, an attempt was made by Joseph Sturge to unite all friends of popular enfranchisement in a complete suffrage union, but he succeeded only in dividing their ranks. In 1848, the turmoil in France created great excitement in England, and much anxiety was felt lest an armed attempt should be made to subvert the institutions of the country. Two hundred thousand special constables were enrolled in London alone. There were several local outbreaks, and much real danger, but the attempts at disorder were efficiently met, and, as usual, the only result was the punishment of the more prominent men, and the postponement of the desired reforms.

Since 1848, C. has gradually died out. Its principles were not new. The Duke of Richmond, in 1780, introduced a bill into the house of lords to give universal suffrage and annual parliaments. In the same year, Charles James Fox declared himself in favor of the identical six points afterward included in the charter. And nearer our own time, Earl Grey, Mr. Erskine, Sir James Mackintosh, and many others, formed a 'Society of Friends of the People,' which aimed at obtaining a very large extension of the suffrage.

The great body of chartists were, however, not so much actuated by the weight of precedent or argument, as impelled by the pressure of actual want, and an indefinite feeling that the laws were somehow to blame for not providing them with the means of comfortable subsistence. But there were many among them who had studied the principles involved in their demands, and maintained them from an intelligent conviction of their truth. These men declared that all persons had an equal natural right to share in determining the laws under which they lived; and further, that as they were required to contribute to the taxation of the country, they were justly entitled to be heard as to the application of the public funds. Taxation and obedience being universal, representation ought to be so. This view being conceded, all the other points of the charter naturally followed, they being merely arrangements for securing the free action of the right contended for. Some of the chartist advocates went far beyond

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this. There were those among them whose aims included little less than the reorganization of society. One of the ablest advocates of the cause wrote in favor of nationalizing the land, and remodelling the currency; he also proposed a system of state loans for the assistance of laborers who desired to become capitalists, and national marts for the exchange of wealth on terms of equity and justice. Pressed a little further, these views would have developed into communism; but so far as we are aware, most chartists held so strongly the doctrine of *individual* rights, that they were not likely to subordinate man to society. See COMMUNISM: SOCIALISM. The object aimed at by the majority, was merely the extension of the franchise to the masses, in the belief that they would use it wisely and honestly, and put an end to what they considered the selfish and interested rule of classes who had long monopolized the control of the state. The opponents of C. answered that if the question was argued as one of right, it would go far beyond the conclusions which the chartists had reached. The *right* appertained to women as well as to men, and there was no just reason why sane persons under 21 should be deprived of it. It would also, they maintained, give all power to the most ignorant classes of the community, and thus subject intelligence to brute force. Government existed for the benefit of society, and ought, as far as possible, to depend on the wisdom, and not on the mere number of the people. Then if representation depended upon taxation, it should vary in proportion to the taxes paid. Finally, they denied that men *as such* had a right to vote; their right was to be well governed, and universal suffrage was more likely to destroy society than to confer happiness or insure justice.

The cause which put an end to C. as an organization was undoubtedly the improvement in the circumstances of the people which followed the repeal of the corn laws. Since then, the chief points of the charter have actually become law. A property qualification is no longer necessary in a representative; the reform acts of 1867-8 have virtually established manhood suffrage; and the act of 1872 gave vote by ballot. The efforts of the majority of those who live by manual labor are now directed toward securing, by trades-unions and other means, a larger share than formerly in the profits of industry.

CHARTRES, *shárt'r*: city of France, dept. of Eure et Loir, 47 m. s.w. of Paris; built partly at the base and partly on the declivity of a hill overlooking the river Eure, which is here divided into two channels, one flowing within, and the other without the ramparts which are converted into agreeable promenades. C. is a very ancient city. Under the Roman rule it was called *Autricum*, and remains of Roman antiquity are still found. C. consists of an upper and lower town, connected by streets almost inaccessible to carriages. The upper town has some good streets, but the lower is ill built. The houses are old, and many of them of wood, with their gables to the street. The cathedral, one of the largest and most imposing ecclesiastical structures in Europe, with its lofty spires, one of them towering to a height

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of more than 400 ft., crowns the top of the hill. It has no less than 130 painted-glass windows, the workmanship of which is unsurpassed, if indeed equalled in France. The church of St. Pierre, and the obelisk to the memory of General Marceau, are also objects of interest. The weekly corn market of C. is one of the largest in France, and is remarkable as being under a corporation of women who contrive to get through all the business most satisfactorily in less than an hour. It has manufactures of woolen, hosiery, and leather. Pop. (1881) 20,692; (1896) 23,182.

CHARTREUSE, LA GRANDE, *lā grōngd shâr-tréz'*: celebrated monastery in France, dept. of Isère; 13 m. n.n.e. of Grenoble, in the wild and romantic valley of the Guiers, nearly 4,000 ft. above the sea. It is surrounded by the mountain-forests of the Alps; and the route to it is very picturesque, through a mountain-gorge, down which a rapid river dashes far below the traveller, while above him rise precipitous and foliage-lined rocks, some hundreds of feet in height. The convent is a huge ungainly structure, dating mostly from the 17th c., earlier buildings having been destroyed several times by fire. The convent owes its origin to St. Bruno, who settled a little higher up the mountain in 1084, giving the name of the place, C., to his order. The monks had at one time considerable property, but they were despoiled at the Revolution of 1789.

CHARTULARY, *chârt'ū-lér-ī*, or CARTULARY (q.v.): collection of charters. So soon as any ecclesiastical or secular body came to be possessed of a considerable number of charters, obvious considerations of convenience and safety would suggest the advantage of having them classified and copied into a book or roll. Such book or roll has generally received the name of a C. Mabillon traces chartularies in France as far back as the 10th c., and some antiquaries think that they were compiled even earlier. But it was not until the 12th and 13th c. that chartularies became common. They were kept not only by all kinds of religious and civil corporations, but even by private families. Many have been printed, and their contents generally are of great value in historical, archæological, and genealogical inquiries.

CHARWOMAN, n.: see under CHAR 3.

CHARY, a. *chār'i* [AS. *cearig*, careful: Dut. *karigh*, sparing, niggard: Ger. *karg*, niggardly: comp. Gael. *deire* = *jury*, backward, behind—*lit.*, keeping behind either in words or deed]: reluctant; cautious; frugal; careful. CHAR'ILY, ad. -*lī*, cautiously and reluctantly. CHAR'INESS, n. caution; nicety.

CHARYB'DIS: see SCYLLA AND CHARYBDIS.

CHASCH'ISH: see HEMP, INDIAN.

CHASE, n. *chās*—sometimes spelled CHACE [F. *chasser*; OF. *chacier*, to hunt—from mid. L. *captiārē*, to chase, to hunt wild beasts: Sp. *cazar*, to hunt]: the hunting of wild beasts; eager or vehement pursuit; an earnest seeking after, as pleasure, fame, etc.; the thing sought for or hunted;

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open ground or retreat for the larger game; the pursuit of an enemy; vessel pursued by another at sea; in *OE.*, a term at the game of tennis: V. to hunt wild beasts; to pursue eagerly; to drive away; to follow eagerly after, as pleasure, profit, etc. CHA'SING, imp. CHASED, pp. *chāst*. CHA'SER, n. -sér, one who. CHASE'ABLE, a. -ā-bl, that may be chased. CHACE-GUN, a gun placed at the bow or stern of a vessel. BOW-CHASER, gun on a vessel pointing ahead. STERN-CHASER, gun on a vessel pointing astern.

CHASE, n. *chās* [F. *châsse*, a shrine, a reliquary—from L. *capsa*, a box, a case (see CHASE 2)]: an iron frame in which to confine types; the part of a smooth-bore gun lying between the ring in front of the trunnion and the neck-molding.

CHASE, v. *chās* [F. *châsse*, a shrine for a relic—from L. *capsa*, a case; the thing wherein another is *enchased*; contr. of *enlace*]: to work or engrave gold, silver, bronze, or other metal, as silversmiths do, partly engraved and partly in relief. CHA'SING, imp.: N. the art of engraving or representing figures on metals. CHASED, pp. *chāst*. Note.—F. *enchaſſer* signifies ‘to set a jewel,’ and as the setting was commonly of ornamental work, the Eng. *chasing* has come to signify ‘embossed jeweller’s work.’—W^dg. Chasing was called *cælatura* by the Romans; and the term is expressly limited by Quintilian to working in metal. The same art, when exercised on wood, ivory, marble, precious stones, or glass, was called *sculptura*: see CARVING. Iron was sometimes, though rarely, used, silver having been always the favorite for this purpose. Closely connected with, but still distinguished from C., is the art of stamping with the punch which the Romans designated by *excudere*. The Greek *toreutike* is usually supposed to correspond to C., but this is not free from dispute. The art was known at a very early period as may be inferred from the shield of Achilles, the ark of Cypselus, and other productions of the kind. Such portions of the colossal statues made by Phidias and Polycletus, as were not of ivory, were produced by the toreutic art. The statue of Minerva was richly adorned in this manner. Besides Phidias and Polycletus, Myron, Mys, and Mentor were celebrated toreutic artists in antiquity, and among many moderns the most famous is Benvenuto Cellini (q.v.).

CHASE, *chās*, in a Gun: name given to the greater portion of the length between the muzzle and the trunnions.

CHASE, *chās*, IRAH, D.D.: 1793, Oct. 5—1864, Nov. 1; b. Stratton, Vt. He graduated at Middlebury College, 1814, studied divinity at Andover, entered the Baptist ministry 1817, was for a year a missionary in western Va., and became, 1818, a prof. in a theol. seminary at Philadelphia, soon removed to Washington. He bore a leading part in establishing the Theol. Institution at Newton Centre, Mass., 1825–6, and was its first prof. There he remained, teaching Biblical theol. and eccles. hist. till 1845. While abroad, 1830, he was instrumental in founding a Baptist mission in France. In later years he published a *Life of*

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BUNYAN, *The Design of Baptism, Infant Baptism an Invention of Man, The Constitution of the Holy Apostles*, revised from the Greek, and sundry sermons, essays, and review articles. He died at Newtonville, Mass.

CHASE, PHILANDER, D.D., L.L.D.: 1775, Dec. 14--1852, Sep. 20; b. Cornish, N. H.: first Prot. Episc. bishop of Ohio and Illinois, and uncle of Chief-Justice Chase. Disabled from farm work by an injury, he graduated at Dartmouth 1796, met with and studied the Book of Common Prayer, was ordained deacon in New York 1798, May 10, priest 1799, Nov. 10. After several years' service as missionary in N. Y. he went to New Orleans, 1805, and organized an Episcopal church there. He was rector of Christ Church, Hartford, 1811-17; then went to Ohio as an ecclesiastical pioneer. Consecrated bp. 1819, Feb. 11, he continued his zealous labors, raised \$30,000 in England 1823, bought 8,000 acres, and founded Kenyon College and Gambier Theol. Seminary. Trouble arising with some of his clergy about the funds which he had collected, he resigned 1831, Sep., moved to Mich., was made bp. of Ill. 1835, Mar. 8, visited England again and secured \$10,000, with which he founded Jubilee College at Robin's Nest, Ill.: here he lived thenceforth. He published *A Plea for the West* (1826); *The Star in the West, or Kenyon College* (1828); *Defense of Kenyon College* (1831); and *Reminiscences*, an autobiography in two vols. (1847).

CHASE, SALMON PORTLAND: 1808, Jan. 13—1873, May 7; b. Cornish, N. H.: Chief-Justice of the United States 1864-73. He was sixth in descent from Aquila C., who emigrated from Cornwall to Newbury, Mass., 1640. His father removed to Keene, N. H., 1816, lost his property in a glass-factory, and soon died. C. was sent, 1820, to his uncle, the bishop of Ohio, returned to N. H. 1823, entered Dartmouth College as a junior, and graduated 1826; he then opened a school at Washington, read law under Wirt, was admitted to the D. C. bar 1829, and settled at Cincinnati 1830. His first years of practice were full of the usual difficulties and discouragements, but his edition of the Ohio Statutes in three vols., 1832, with notes and a sketch of the history of O., won him reputation; he was appointed solicitor for the United States Bank, 1834, and soon was fully occupied. His position regarding slavery was early taken and defined 1837: in defending a woman claimed as a fugitive slave, he denied the constitutionality of the law of 1793, and the right of congress to impose duties in such cases on state officers. Also, in 1837, as counsel for James G. Birney, prosecuted for harboring a slave, he maintained that slavery was sectional and dependent on state laws, whereas freedom was national, universal, based on natural right; hence that a slave brought into a free state by his master was thereby freed. These ideas he further expounded, 1842, in defending John Van Zandt, a Ky. abolitionist, who had removed to O. and aided slaves to escape. The case went up to the United States supreme court, where Mr. C. was joined by William H. Seward. He was

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the chief founder of the liberty party, organized at Columbus, 1841, Dec., and wrote the address setting forth its principles and aims. At the national convention at Buffalo, 1843, he wrote most of the platform and favored moderate measures; at one in Cincinnati, 1845, he gave a history of slavery and argued for an anti-slavery party; at the second national convention, 1847, he advised a waiting policy. Another at Buffalo, 1848, over which he presided, and whose platform he drew up, nominated Van Buren and Charles F. Adams as free-soil candidates. Mr. C. was elected to the United States senate 1849, Feb. 22, by democratic votes, but left that party when its leaders in O. sanctioned the Baltimore platform of 1852 with its approval of the Compromise Acts of 1850, and prepared a platform which was adopted in substance by the independent democratic convention at Pittsburgh, 1852. In the senate his course was consistent and unmistakable; he opposed Clay's Compromise, 1850, Mar., moved an amendment against the introduction of slavery in the territories, and others to modify the fugitive-slave law; he fought the Kansas-Nebraska Bill, 1854, and wrote an appeal to the people against it; he supported the Homestead Bill, the cheapening of postage, and the grant toward the construction of the Pacific railroad. His anti-slavery measures were of course defeated, but they bore their part in educating the nation. Mr. C. was gov. of Ohio for two terms, 1856-60, being reelected by a very large vote, 1857; in this office he protected the state credit and compelled the resignation of a defaulting treasurer. He withdrew his name as a presidential candidate at the republican convention 1856, and supported Fremont; at Chicago, 1860, he received 49 votes on the first ballot. At the Peace Conference, 1861, Feb., he proposed compensation to the owners of fugitive slaves. Again elected to the senate, he gave up his seat to become sec. of the treasury. Here his great ability and energy found full occupation. The treasury was empty, the govt. credit below par, and civil war about to entail its enormous expenses. As congress would not resort to direct taxation, he met the crisis by extensive loans, on which the interest, being paid in gold, which then commanded an immense premium, was necessarily high; by an increase of duties on imported goods; by the issue of greenbacks, 1862, Feb., acquiescing in their character as legal tender, which originated with congress; and by the system of national banks, 1863, Feb., which superseded the state banks. These measures were freely criticised, but as war measures they carried the country through a terrible emergency. When Mr. C. resigned his post 1864, June 30, the national debt was \$1,740,690,489, to be increased some \$500,000,000 by the remaining expenses of the war. His name was pushed for a presidential nomination, but in vain. 1864, Dec. 6, Pres. Lincoln appointed him chief-justice, to succeed Roger B. Taney. Here he considered in an independent spirit many questions of reconstruction, and decided against the constitutionality of the legal-tender notes, to which he said he had agreed merely as a temporary neces-

CHASE—CHASIDIM.

sity. In matters of technical law he trusted largely to his associates, as became one so long absent from the bar and engrossed by active political duties. He presided over the senate in the impeachment of Pres. Johnson 1868—the only case of the kind in United States history—and favored the result of acquittal. Gradually alienated from his party and disapproving its course in congress, he was suggested as a democratic candidate for the presidency 1868; he answered certain questions of the chairman of the national committee and wrote a declaration of principles, but received only four votes. He opposed Gen. Grant's re-election 1872. His health was much impaired by a paralytic stroke 1870, June, though he still attended the sessions of his court. He died in New York. His remains were taken, 1886, Oct., from Washington to Spring Grove cemetery, Cincinnati. His *Life* has been written by J. W. Schuckers (N. Y. 1874), and by R. B. Warden (Cincin. 1874).

CHASE, SAMUEL: 1741, Apr. 17—1811, June 19; b. Somerset co., Md.: signer of the Declaration of Independence, and associate justice of the U. S. supreme court. He was educated by his father, the Rev. Thomas C., studied law at Annapolis, was admitted to the bar 1761, was early sent to the legislature, and won note as an eloquent speaker and ardent lover of liberty, opposing the Stamp Act and the colonial governor. He was a member of the continental congress 1774–78, and there denounced Dr. Zubly of Ga. as a traitor, and drove him to flight. Sent to Canada, 1776, on a mission with Franklin and the two Carrolls, he returned in time to influence the hesitating opinion of Md. and to sign the Declaration. After serving industriously on committees and practicing a few years at Annapolis, he went abroad as a state agent to recover funds deposited in the Bank of England, succeeded in procuring the payment of \$650,000, and was thanked by the Md. legislature. He removed to Baltimore 1786, and was a member of the Md. convention to ratify the United States constitution, which (though a Federalist) he thought not democratic enough. He became chief-justice of a new criminal court 1788, and chief-justice of Md. 1791. During a riot, 1794, he offered to serve as a sheriff's posse when no one else would, and was presented by the grand jury, whom he told to keep to their province. Washington appointed him a justice of the supreme court 1796, Jan. 27. For his course in two political trials he was impeached, 1804, at the instance of John Randolph, but discharged by the senate on a divided vote 1805, Mar. 5. He was a learned lawyer, a man of bold, impetuous, irascible, but lofty character, and a lover and practitioner of free speech.

CHASIDIM, *kăs'i-dim* ('Pietists'): name anciently denoting a whole class of Jewish sects. After the Babylonian captivity the Jews, with regard to their observance of the law of Moses, were divided into two classes—*Chasidim* and *Zadikim*. When the so-called great synagogue was commissioned by the Persian government to draw up a code of civil and religious laws for the emigrant Jews

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returning to settle in their native land, several innovations were made on the Mosaic law. Those who accepted these innovations were styled the C.; while those who rejected them were styled, or styled themselves, the Zadikim, or 'upright,' because they adhered strictly to the law given by Moses, without observing any of the additions to it. The C. branched forth into several sects, all holding, in connection with the written law, traditions which they believed to possess a divine sanction equally with that law. The Pharisees, so often mentioned in the New Testament, formed an early sect among the C., while from the Zadikim sprang forth the Hellenistic Samaritans, Essenes, Sadducees, etc. Afterward the C., or Pharisees, split into Talmudists, Rabbinists, and Cabballists, some of whom underwent still further subdivision.—The modern C. are not, like those in the times of the Maccabees, marked by any peculiar spiritualistic tendency in religion, but rather by a strict observance of certain traditional forms, and a blind subservience to their teachers. Their doctrine was promulgated in the middle of the 18th c. by Israel of Podolia, called *Baal-Shem* ('Lord of the Name,' so called because he professed to perform miracles by using the great cabalistic name of the Supreme Being). Though condemned by the orthodox rabbis this new teacher had great success in Galicia, and when he died (1760) left 40,000 converts. They are now broken into several petty sects; their religion is utterly formal, and its ceremonies are coarse and noisy.

CHASLES, *shál*, MICHEL: 1793, Nov. 13—1880, Dec. 19; b. Epernon: French mathematician. He studied at the polytechnic school of Paris, to which, after some years at Charenton, he returned 1841 as prof. of geodesy and mechanics. The chair of higher geometry in the faculty of sciences was founded for him 1846, and he was admitted to the Acad. 1851. He published a work of geometry 1837, a history of arithmetic 1843, a treatise on higher geom. 1852, and one on conic sections 1865; two of these were translated into German. C. was beguiled, 1867, into paying 140,000 francs for a marvellous collection of letters supposed to have been written by Julius Cæsar, Dante, Shakespeare, and other illustrious persons; on the strength of some of these he claimed Sir I. Newton's discoveries for Pascal. Several academicians were deluded by this huge fraud, the perpetrator of which, Irène Lucas, received a two years' sentence 1870, Feb. 23. C. died in Paris.

CHASM, n. *kăzm* [Gr. and L. *chasma*, a gaping or wide opening]: a deep gap or opening in the earth, or between rocks; a void space. CHASMED, a. *kăzmd*, having gaps or deep openings. CHAS'MY, a. -*mī*, full of chasms.

CHASSE, *shás-sá'*: music composed in imitation of the chase, and performed chiefly by horns, occasionally combined with other wind instruments. Its movement is in $\frac{4}{4}$ times. The best specimens are an overture by Mehul, and a C. for the piano-forte by Kreutzer.

CHASSE, *shás-sá'*, DAVID HENDRIK, Baron: 1765, Mar. 18—1849, May; b. Tiel: began his military career when

CHASSEPOT—CHASSEURS.

but ten years of age, became lieut. 1781, cap. 1787. After the revolution of that year, C., as siding with the humbled Dutch patriots, took French service; was appointed lieut.-col. 1793; and, two years later, found himself marching toward the Netherlands under the command of Pichegru. He afterward fought with the French in Germany and Spain, gaining great distinction and the appellation of *Général Bayonnette*. As lieut.gen. of the Dutch forces, 1815, C. added to his laurels on the field of Waterloo. After the peace he was made gov. of Antwerp, 1830, and bravely defended it against the united Belgians and French 1832, Nov. 29-Dec. 23, when he was forced to surrender.

CHASSEPOT, *shás-pó'*: a breech-loading rifle invented by Antoine Alphonse Chassepot, 1863, and introduced after the Prussian needle-gun had been employed successfully in the war with Austria 1866; the French infantry and part of the cavalry were then armed with it, and used it against the Germans 1870-1. It has four grooves, and allows twelve discharges to the minute. The fulminate is a paper wad forming the rear of the cartridge envelope, which is of silk or linen, with a calibre of .433 inch. The gas-check is a cylindrical ring of vulcanized India rubber, which is pressed against the surface of the chamber when the explosion occurs. This gun has been criticised as too fragile, expensive, easily fouled, and difficult to clean; some of these drawbacks have been removed or diminished in its later forms. Its inventor was born 1833, employed in the workshops of St. Thomas at Paris, made director there 1864, and afterward attached to the national manufactory of arms at Chatellerault near Poitiers. He spent years of study on the gun, patented it, received the cross of the Legion of Honor 1866, maintained his right against another claimant 1869, and has drawn a large income from his invention.

CHASSEURS, n. *shás-sérs'* [F. *chasseur*, a huntsman—from *chasser*, to hunt (see CHASE 1)]: horse or foot soldiers trained for rapid movements; name of two important forces in the French army. The mounted C. (*C.-à-cheval*) are a body of light cavalry, designed for service in advance or on the flanks of the army, and correspond most nearly to the light horse of the British service. The name, used in this sense first in 1741, has been retained, while the force that it denotes has undergone many alterations in organization and equipment. In 1831, a body of cavalry was raised for service in Africa, mounted on Arab horses, and with a distinct uniform. These have since become famous as the *C. d'Afrique*. After the reorganization of the French army, 1873, the effective army contained 14 regiments (subsequently increased to 20) of C.-à cheval, besides four regiments of C. d'Afrique.—The infantry C. (*C.-à-pied*) are a light-infantry force in many respects corresponding with the cavalry C., and like them intended for detached service (like the rifle corps in the English army). The French are believed to have adopted the idea of such a force of sharpshooters from the *Jäger* (the German word

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corresponding to C., or *hunters*) in the German armies. First used in the thirty years' war, the Jäger derived their name from the fact that they were chiefly drafted from among mountaineers and inhabitants of forest regions. They have always been regarded as a valuable contingent in the Prussian and Austrian armies, or even constitute the entire force of light infantry. In the German army, there are 26 battalions (near 15,000 men) of this force; in the Austrian service, upward of 20,000 officers and men. In France the equipment of the C. differed little from that of the other infantry; it was not until the formation in 1838 of the *C. de Vincennes*, that the experiment of a specially-armed force of sharpshooters was fairly tried. The fame of the *C. de Vincennes* for rapidity and precision of movement, as well as for the accuracy of their fire, soon evinced the importance of this branch of the infantry; and at present there are 30 battalions of C.-à-pied in the French army.

CHASTE, a. *chāst* [F. *chaste*—from L. *castus*, pure: It. *casto*]: pure from sexual commerce; true to the marriage vow; pure; undefiled; in *language*, free from barbarous or affected words and phrases; refined in expressions; in *works of art*, pure in taste or design; not vulgar in style. **CHASTE'LY**, ad. *-lī*, without contamination; in a pure manner. **CHASTE'NESS**, n. the state of being chaste; purity in taste or design. **CHASTITY**, n. *chās'ti-tī* [F. *chasteté*]: purity of body or of speech.

CHASTELARD, *shāt-lār'*, PIERRE BOSCOBEL DE: 1540–1563; b. Dauphiny, of the Bayard family. A pupil of Ronsard and then a page of the constable Montmorency, he went with the train of Marshal Damville to Scotland, returned to Paris, and went again to the n. with letters of recommendation to the Scottish Queen Mary. With her the youth became infatuated, and much philandering ensued; Mary accepted his erotic verses, encouraged his advances, and showed pleasure in his society. Fired by his passion, and little deterred by prudence or principle, he concealed himself beneath her couch, was found there by her maids of honor, pardoned, and restored to favor. For a repetition of the offense he was promptly sentenced, and hanged next morning. He read Ronsard's *Hymn of Death* on his way to the scaffold; his last words apostrophized his 'cruel queen,' with or without the famous addition, 'Thou killst me, and yet I cannot cease to love thee.' This fatal passion, C.'s only title to remembrance, is made the most of in Mr. Swinburne's tragedy, *Chastelard*.

CHASTELLUX, *shā-tā-lüks'*, FRANÇOIS JEAN, Marquis DE: 1734–88, Oct. 28; b. Paris. He entered the army at the age of 15, was a col. in the German war 1754–63, and maj.gen., 1780, in Rochambeau's army in America, where he gained Washington's friendship and visited Jefferson at Monticello. Returning to France he became a field-marshall and an academician. His reputation as a writer was made by *De la félicité publique* (1772), which breathed the spirit of Condorcet and the encyclopedists, and was

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thought by Voltaire superior to Montesquieu's *L'Esprit des Lois*. His journal of American travels and experiences appeared in 2 vols. 1786 as *Voyage dans l'Amérique Septentrionale dans les Années 1780-82*, in an edition of but 24 copies, and in a translation by Geo. Grieve at London 1787. In that year he published a discourse on the advantages and disadvantages resulting to Europe from the discovery of America, which La Harpe called his best book. This, and his earlier verses addressed to the U. S. armies, were translated by Col. David Humphreys. C. married an Irish lady, Miss Plunket, 1787. He died in Paris.

CHASTEN, v. *chās'n* [F. *châtier*—from OF. *chastier*, to correct—from L. *castigārē*, to correct]: to correct; to punish for the purpose of reclaiming an offender; to afflict in any way; to purify. **CHASTENING**, imp. *chās'ning*. **CHASTENED**, pp. *chās'nd*: ADJ. corrected; softened down. **CHAS'TENER**, n. -*nér*. **CHASTISE**, v. *chās.tīz'*, to punish or correct with the rod; to inflict a pain as punishment for an offence; to correct or purify in any way. **CHASTI'SING**, imp. **CHASTISED'**, pp. -*tīzd*. **CHASTISER**, n. one who. **CHASTI'SABLE**, a. -*zū-bl*. **CHASTISEMENT**, n. *chās'tīz-mēnt*, correction; punishment.—SYN. of 'chasten': to chastise; purify; punish; correct; discipline; afflict.

CHASTE TREE: see VITEX.

CHASUBLE, n. *chāz'ū-bl*, or **CHE'SIBLE**, or **CHES'ABLE** [F. *chasuble*—from mid. L. *casib'ūla*, a little mantle, a dim. of mid. L. *cas'ūla*, a mantle]: uppermost or last garment put on by priests in the Rom. Cath. Church, when robed for the celebration of the mass. It was called also 'the Vestment,' and under that name seems occasionally to have been used in the English Church after the reformatiou. Originally it covered the priest from head to foot, like a little house, whence some writers think it had its name of *casula*. In more recent times, at least, it was made of velvet. It was of an elliptical shape, like a *resica piscis*, with a hole in the middle for the head; it had no sleeves. When put on, it showed two peaks, one hanging down before; another, on which a cross was embroidered, hanging down behind. According to Hildebert the C. signified good works; according to Alcuin, charity; according to another writer, the unity of the faith. Durand makes one peak the symbol of love to God, the other peak the symbol of love to the neighbor. In France, the press or wardrobe in which chasubles were kept was called the *chasublier*.

CHAT, n. *chāt* [a modern abbreviation of OE. *chateren*,



Chasuble.

CHAT—CHATEAUBRIAND.

to chatter: It. *gazzolare*, to chat or chatter: Mal. *kata*, to speak: an imitative word]: familiar talk; idle conversation: V. to converse in a familiar, easy way; to talk idly. CHAT'TING, imp. CHAT'TED, pp. CHAT'TY, a. -*tī*, talkative; conversing pleasantly and freely. CHATTER, v. *chât'ter*, to converse or make a noise as birds do; to utter sounds rapidly, as a monkey; to talk idly or carelessly; to prattle; to rattle the teeth, as in shivering: N. rapid, inarticulate sounds, as of a monkey; idle, voluble talk; a genus of small birds, including the stone chat. CHAT'TERING, imp.: ADJ. uttering rapid and inarticulate sounds; talking rapidly and indistinctly: N. the utterance of rapid and inarticulate sounds; rapid and indistinct talking. CHAT'TERED, pp. -*tērd*. CHAT'TERER, n. one who. CHAT'TERBOX, n. one that talks idly and incessantly.

CHAT, *chût* (*Saxi'cola*): genus of small birds of the very numerous family *Sylviadæ* (q.v.), distinguished by a bill slightly depressed, and widened at the base. They have rather longer legs than most of the family. They are lively, flitting about with incessant and rapid motion in pursuit of the insects on which chiefly they feed. They are found in Europe, Asia, Africa, and New Holland. Three species are British—the stonechat, whinchat, and wheatear.—The yellow-breasted C. of the United States (*Icteria polyglotta*) is a larger bird, and belongs to the family *Turdidæ* or *Merulidæ*.

CHATEAU, n. *shă tō'* [F. *château*—from OF. *chastel*—from L. *castel'lum*, a castle]: a castle; a country-seat; a term, or its equivalents, *chatel*, or *castel*, entering as a component part into many names of places in France; plu. CHATEAUX', -*tōz'*. CHATELET, n. *shăt'ĕ-lă*, a little castle; the common jail and session-house in Paris.

CHATEAUBRIAND, *shă-tō-bre-ōng'*, FRANÇOIS AUGUSTE, Vicomte DE: 1769, Sep. 4—1848, July 4; b. St. Malo, Bretagne: distinguished French author. He received his early education in the college at Rennes. While travelling in N. America, 1790, he accidentally read in an English newspaper the account of the flight and arrest of Louis XVI. He immediately returned to France, intending to fight against the republic; but being seriously wounded at the siege of Thionville, 1792, Sep., he escaped to England, where he lived in such poverty that he was compelled to make translations for the book-sellers, and to give lessons in French. In 1797, he published his first political essay, *Sur les Révolutions Anciennes et Modernes, considérées dans leurs Rapports avec la Révolution Française* (2 vols., London), a republican and sceptical work, the outcome of hardship, poverty, and sorrow. His skepticism soon vanished, but republican impulses continued to flash out at intervals during the whole of his strangely checkered, inexplicable, and inconsistent career. In 1800, C. returned to Paris, and wrote for the *Mercure de France*. In this journal, he first printed his tale of *Atala* (1801), with a preface lauding the first consul, Bonaparte. Its success was remarkable, but nothing to the miraculous enthusiasm excited by his *Génie*

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du Christianisme (1802), a work exactly suited to the jaded skepticism of the age, and also in accordance with the policy of the first consul, who was then concluding the concordat with the pope, and wished to make the Rom. Cath. priesthood subservient to his measures. Bonaparte, therefore, appointed C. secretary to the embassy in Rome, and, 1803, sent him as ambassador to the little republic of Valais. On the execution of the Duke d'Enghein, 1804, Mar. 21, C. resigned in disgust. In 1806, he commenced his pilgrimage to the Holy Land, visited Greece, Palestine, Alexandria, and Carthage, and returned through Spain to France, 1807, May. From this period to the fall of Napoleon, he lived privately, publishing only two works of any value—*Les Martyrs*, and the *Itinéraire de Paris à Jérusalem*. In 1814, his eloquent brochure, *De Bonaparte et des Bourbons*, excited such an attention, that Louis XVIII. declared it was worth an army of 100,000 men in favor of legitimacy.

After the battle of Waterloo, C. returned to Paris, where he was made peer and minister of state. Gradually his monarchial zeal subsided, and in his address, *De la Monarchie selon la Charte*, delivered in the chamber of peers, he gave expression to such liberal tendencies as offended the king, who erased his name from the list of his counselors. Soon, however, he appeared again as an ultra-royalist; and at the baptism of the infant Duke de Bordeaux, C. presented to the Dutches of Berry a flask filled with water from the Jordan. In 1822, he was appointed ambassador extraordinary to the British court, but was somewhat rudely dismissed from office in 1824.

In 1826, C. prepared the first edition of his collected works, for the copyright of which the publisher gave the large sum of 600,000 francs, of which C. returned 100,000. During the days of 1830, July, he was staying with his friend Madame Récamier at Dieppe; but as soon as he heard tidings of the revolution he hastened to Paris. He refused to take the oath of fealty to Louis Philippe. This political crotchetiness, which always rendered it impossible to know beforehand what course of conduct C. would adopt, is perhaps best explained by the following passage from his *De la Restauration et de la Monarchie Elective* (Paris, 1831): 'I am a Bourbonist in honor, a monarchist on grounds of rational conviction; but in natural character and disposition, I am still a republican.' In 1832, he revised a new edition of his works, and, after visiting the court of the expelled Bourbons, gave his attention to the preparation of his memoirs, intended to be published posthumously (*Mémoires d'outre Tombe*), though considerable extracts were printed during his lifetime. He also found leisure to write several other works.

C. wrote with warmth, energy, and a rich supply of imagery. Many of his descriptive passages are excellent, but his ideas want depth and coherency.—Marin, *Histoire de la Vie et des Ouvrages de M. de Chateaubriand* (2 vols., Paris, 1832).

CHÂTEAUDUN, *shá-tō-düng'*: town of France, dept. of Eure-et-Loir, on the Loir, a tributary of the Loir, about

CHÂTEAU-GONTIER—CHATELAINE.

26 m. s.s.w. of Chartres. The streets are straight and well built, and an old castle, with an enormous tower, overlooks the town. C. has manufactures of blankets and leather. Pop. 7,000.

CHÂTEAU-GONTIER, *shá-tō-gōng-te-ā'*: town of France, dept. of Mayenne, on the river Mayenne, here crossed by a stone bridge, 18 m. s.s.e. of Laval. C. has some good houses, but the streets are not well laid out. It has linen and woolen manufactures. Pop. 7,500.

CHATEAUGUAY, Sieur DE: see LE MOYNE, ANTOINE.

CHÂTEAUNEUF DE RANDON, *shá-to-néf' deh rōng-dōng'*: village of France, dept. of Lozère, 12 m. n.e. of Mende. A historical incident is connected with the place, which was formerly fortified. In 1380, the fortress, then held by the English, was besieged by the troops of Charles V., under the command of the gallant Du Guesclin. The English governor, sore pressed, promised to yield in 15 days if no succor arrived. In the meantime Du Guesclin died, and his successor was appointed, who, at the expiry of the 15 days, summoned the governor to surrender. He refused to yield up the keys to any but Du Guesclin; and, when informed of his death, marched out, and on bended knee laid the keys and his sword on the dead hero's bier. Pop. 500.

CHATEAUROUX, *shá-tō-rō'*: town of France, dept. of Indre, on a rising ground in the midst of an extensive plain, on the left bank of the river Indre, 166 m. s. of Paris by railway. The town, formerly dirty and ill built, has been greatly improved within the last quarter of a century. C. has not much interest for the traveller. It is a busy place, with extensive woolen factories, besides manufactures of cotton, hosiery, yarn, hats, paper, parchment, hardware, leather, etc. Some of the best iron in France is found in the vicinity. The town owes its origin to a castle built here in the 10th c. Pop. (1886) 21,995.

CHÂTEAU-THIERRY, *shá-tō'tē-ār-rē'*: town in the dept. of Aisne, France, on the Marne. Its name comes from a castle whose ruins are on a hill near by, said to have been built by Charles Martel for Thierry IV. C. was once the capital of a dist., and received the title of a duchy, 1566, from Charles IX. It was taken by the English 1429, by Charles V. 1545, by the Spanish 1591, pillaged in the wars of the Fronde 1652, and much injured 1814, when Napoleon defeated the Russians and Prussians near by, Feb. 12. C. has a tribunal of first instance, a communal college, a public library, a stone bridge with three arches, and manufactures of linen, cotton, leather, and earthenware. La Fontaine was born here; his house still stands in a street now named from him, and there is a statue to his memory. Pop. 5,347; of the commune, 6,623.

CHATELAINE, n. *shăt'ē-lān* [F. *châtelaine*, the lady of the castle who wore the keys at her girdle]: a chain at a lady's waist-belt from which may be suspended keys, scissors, watch, and other articles of personal convenience.

CHÂTELET—CHÂTELLERAULT.

CHÂTELET, *shâ-tâ'* or *shâ-te-lâ'*, GRAND, and PETIT, two ancient fortresses of Paris, said to have been built in Cæsar's time. The Grand C. stood on the right bank of the Seine, where is now the w. part of the Place du C.; it was restored and enlarged by Louis IX., Charles VIII., and Louis XII., and was long occupied by the counts and afterward by the provosts of Paris. As remodelled by Louis XIV., it was noted as a prison and seat of the judiciary; in 1790, it accommodated two companies of soldiers, 1,207 civil officers, and many lawyers. It was demolished 1802. The Petit C. was on the left bank of the Seine, where the Place du Petit Pont now is, and was originally one of the gates of Paris, at which tolls and excise duties were levied; it was destroyed by a flood 1296, rebuilt 1369, and torn down 1782. Similar châtelets were at Orleans and Montpellier.

CHÂTELET - LOMONT, *shâ-tâ'lo-mông'*, GABRIELLE EMILIE, Marquise DU: 1706, Dec. 17—1749, Sep. 10; b. Paris: learned Frenchwoman, notorious for her intimacy with Voltaire. She early showed aptitude for knowledge, studied Latin and Italian with her father, the Baron de Breteuil, and subsequently betook herself with zeal to mathematics and the physical sciences. Distinguished alike for beauty and talent, she soon found a host of suitors for her hand. Her choice fell on the Marquis du Châtelet-Lomont, but her marriage did not hinder her from forming a *tendresse* for Voltaire, who came to reside with her at Cirey, a château on the borders of Champagne and Lorraine, belonging to her husband. Here they studied, loved, quarrelled, and loved again, for several years. In 1747, however, poor Madame C. became 'not insensible to the brilliant qualities' of a certain M. Saint-Lambert, a capt. of the Lorraine Guards; and the result was, that the philosopher had to give place to the soldier, and content himself for the future with being the 'devoted and indulgent friend' of his former mistress. This new intimacy became fatal to Madame Châtelet. She died at Lunéville, a few days after having given birth to a child. Her first writing was a treatise on the philosophy of Leibnitz. She also translated the *Principia* of Newton into French, accompanying it with algebraic elucidations. It did not, however, appear till 1756, some years after her death. Her correspondence with Voltaire is interesting; but the fact that a woman so highly gifted as Madame C., and possessing so many amiable qualities, should never have dreamed that there was anything wrong in her *liaisons*, shows with terrible conclusiveness how corrupt was that philosophic society which, in the 18th c., professed to explode superstition and enlighten France and the world.

CHÂTELLERAULT, *shâ-tâl-rô'*: town of France, dept. of Vienne; on the river Vienne, 18 m. n.n.e. of Poitiers. A handsome stone bridge, with a massive castellated gateway, built by Sully, at one end, connects it with a suburb on the other side of the river. C., an ill-built, mean-looking town, is one of the chief seats of the manufacture of cutlery in France, and since 1820 has had a national manufactory of

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swords and bayonets. Its river-port makes it the entrepôt for the produce of an extensive district. The Duke of Hamilton derives his title of Duke of Châtelhcrault from this place. Pop. (1881) 14,864 ; (1891) 22,522.

CHATHAM, *chāt' am* [Saxon, *Ceteham* or *Cartham*, understood to signify the 'village of cottages']: parliamentary borough, river-port, fortified town, and naval arsenal, in the county of Kent; on the right bank of the Medway, at the upper part of its estuary, 30 m. e.s.e. of London. Pop. (1897) estimated at 48,000. Much of C. is ill-built and irregular. The High Street is $1\frac{1}{4}$ m. long, parallel to the river, and swarms with soldiers and Jews. The refuse timber of the dock-yard is much used in building the house-walls. C. owes its importance to its naval and military establishments situated at Brompton village (on a height half a mile north of C.), and on the Medway estuary. The C. fortified lines are the frequent scenes of field-operations, imitation battles, and reviews. The Romans seem to have had a cemetery here. Traces of Roman villas have been found, with Roman bricks, tiles, coins, and weapons. The dock-yard was founded by Elizabeth before the threatened invasion of the Spanish Armada. In 1662, it was removed to its present site. In 1667, the Dutch, under De Ruyter, sailed up the estuary of the Medway, and in spite of the fire from the castle, destroyed much shipping and stores.

In a military view, the lines of detached forts connected with C. constitute a fortification of great strength; and the whole is regarded as a flank defense for London in the event of an invader seeking to march on the capital from the s. coast. The place is defended also by some strong forts on the Medway. In and near C. are fort Pitt, a military hospital and strong fort; barracks for infantry, marines, artillery, and engineers; a park of artillery; and magazines, store-houses, and depots on a large scale.

In a naval sense, C. is one of the principal royal ship-building establishments in the kingdom, and a visit to it never fails to impress the stranger with a sense of the naval power of England. The dock-yard is nearly two m. in length, containing several building-slips, and wet docks sufficiently capacious for the largest ships; and the whole is traversed in every direction by a tramway for locomotives, with a gauge of 18 inches. Three great wet docks on reclaimed marsh land were completed 1883 after the labor of 17 years, and at a total cost of about £3,000,000 (including cost of site; as also convict labor valued at £400,000). The reclaimed land extended to 400 acres; and the aggregate water area of the three new wet docks is 67 acres. One establishment in this dock-yard is a metal mill, which supplies all the royal dock-yards with copper sheets, bolts, and other articles in copper and mixed metal. A duplicate of Brunel's block-making machinery is kept at C. to supplement that at Portsmouth. The dock-yard is controlled by a captain-supt. The actual workmen, artisans and laborers, vary in number according to the amount of ship-building and repairing. In the navy estimates provision is made for about 5,000 ship-wrights, calkers, joiners, sawyers, mill-

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wrights, smiths, block-makers, sail-makers, rope-makers, riggers, laborers, etc. The total outlay on the C. establishment 1879-80 was £685,253.

CHATHAM: town and port of entry of Northumberland co., New Brunswick; on the right bank of the Miramichi river, near its entrance to Miramichi Bay on the e. coast, and on the Intercolonial railroad. It is the seat of a Rom. Cath. bishop and has a cathedral, college, hospital, two halls, a newspaper, some foundries and factories, and a trade in lumber and fish. Pop. 4,203.

CHATHAM: capital of Kent co., Ontario, Canada; on the Thames river, 10 m. n. of Lake Erie, 47 m. e. of Detroit, with which it has communication by steamboats and by the Great Western railroad. It has 5 churches, 2 newspapers, 2 branch banks, some manufactures of wool and iron, and a good trade in timber and produce. It is the centre of a rich farming region. Pop. 5,873.

CHATHAM, WILLIAM PITT, Earl of, sometimes styled PITT THE ELDER: great English orator and statesman: 1708, Nov. 15—1778, May 11; son of a country gentleman, Robert Pitt of Boconnoc, in Cornwall. After an education at Eton and Oxford, he travelled on the continent, and on his return obtained a cornetcy in the blues. In 1735, he entered parliament for Old Sarum—that synonym for electoral corruption—a borough then belonging to his family. He espoused the side of Frederick, Prince of Wales, then at deadly feud with the king, and offered a determined opposition to Walpole, who was at the head of affairs. He was deprived of his commission in consequence—an insult and injury which only increased the vehemence of his denunciations of the court and the government. His influence, both in and out of the house of commons, increased rapidly; and Walpole, being driven from power, the king, notwithstanding his hatred of Pitt, found it necessary to allow of his admission to a subordinate place in the broad bottom administration; subsequently he was appointed to the lucrative office of paymaster-general. The Duchess of Malborough, pleased with his patriotism and powers of oratory, left him £10,000; and later, Sir William Pynsent, struck with similar admiration, left him his whole property. In 1755, when Henry Fox (afterward Lord Holland) was made sec. of state, finding himself opposed to the foreign policy of the new minister, Pitt resigned office as paymaster. In the following year, when the king, unwillingly acceding to popular demands, had to dismiss Fox, Pitt became nominally sec. of state, but was virtually premier. He immediately began to put into execution his own plan of carrying on the war with France. He raised the militia, and strengthened the naval power; but the king's old enmity, and German predilections, led him to oppose Pitt's policy, who thereupon resigned office 1757, Apr., but was recalled in June, in obedience to the loud demands of the people.

Now firmly established in power, Pitt's war policy was characterized by unusual vigour and sagacity. Success

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returned to the British arms. French armies were beaten everywhere by Britain and her allies—in India, in Africa, in Canada, on the Rhine—and British fleets drove the few French ships they did not capture or destroy from almost every sea. But the prime mover of all these brilliant victories found himself compelled to resign (1761), when, on the accession of George III., and owing to the influence of Lord Bute, it was attempted to introduce a vacillating policy into the government; his immediate cause of resignation being the refusal of the majority of the cabinet to declare war with Spain, which Pitt foreseeing as imminent, wished to commence before the Spaniards were thoroughly prepared. As some recompense for his important services, Pitt received a pension of £3,000 a year; and his wife, sister of George Grenville, was created Baroness Chatham. Until 1766, Pitt remained out of office, not offering a factious opposition to government, but employing all his eloquence to defeat some of its most obnoxious measures. In that year he received the royal commands to form a ministry. He undertook the task, choosing for himself—to the astonishment of the public, and the sacrifice, to a considerable extent, of his popularity—the almost sinecure office of privy seal, with a seat in the house of lords as Viscount Pitt and earl of Chatham. Ill health prevented C. from taking any active part in this ministry, of which he was nominally the head, and which was weak and embarrassed throughout, and he resigned 1768, to hold office no more. He did not, however, cease to take an interest in public affairs. He spoke strongly against the arbitrary and harsh policy of government toward the American colonies, and warmly urged an amicable settlement of the differences. But when, America having entered into treaty with France, it was proposed by the Duke of Richmond to remove the ministers, and make peace on any terms, C., though much debilitated, came down to the house of lords, and in a powerful address protested against the implied prostration of Britain before the throne of the Bourbons, asserting that war, with whatever issue, was preferable to the proposed terms of peace. This address secured a majority against the motion, and the war was continued. But it was the orator's last effort; for, exhausted by speaking, on rising again to reply to a query addressed to him by the Duke of Richmond, his physical powers suddenly failed, he fell back into the arms of his friends, and was carried from the house. He died shortly afterward, and was honored with a public funeral in Westminster Abbey, where also a statue was erected to his memory at the public expense; and in addition, government voted £20,000, to pay his debts, and conferred a pension of £4,000 a year on his descendants. C.'s personal appearance was dignified and imposing, and added greatly to the attractions of his oratory, which was of the most powerful kind. His upright and irreproachable character demanded the admiration of his enemies; but his affectedness and haughtiness not unfrequently disgusted his friends, and pride rather than principle seems to have actuated his

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course at some important conjunctures of his life. He had, however, an intense love of country; the grand object of his ambition being to make his native land safe against all contingencies, and powerful among nations.

CHATHAM ISLANDS: small group in the Pacific, about 450 m. due e. of the South Island of New Zealand, to which they politically belong. They are the antipodes of Toulouse in France. There are three islands—of which the largest, C. Island, is 25 m. long—and some rocky islets; total area, 628 sq. m. The C. I. were discovered 1791 by Lieut. Broughton, of the ship *Chatham*. A large salt or brackish lake occupies the interior of Chatham Island. The soil and climate of the Archipelago, in general, are said to be good. Wheat yields abundantly; and the horses, cattle, and pigs which have been introduced thrive well. Timber of any size is unknown, so that the native canoe, instead of being cut out of a single tree, is merely wicker-work bound together by cordage of indigenous flax. The people are mostly Maories and Europeans, with a few aborigines. There are two missions to the latter—one from Germany, the other from New Zealand. Pop. abt. 200.

CHÂTILLON, *shâ-te-yōng'*: town of France, dept. of Côte d'Or; on the Scine, about 45 m. n.n.w. of Dijon. Population, 5,000. C. is noted chiefly for the congress of allied sovereigns 1814, Feb. 5—Mar. 19, for negotiating with Napoleon respecting conditions of peace. Several of the conditions proposed by the allies Napoleon could not bring himself to submit to, and the negotiations broke up, March 19. On the 25th, when their armies were, in fact, marching on Paris, the allies from Vitry issued their declaration justifying a continuation of the war.

CHAT MOSS: bog in Lancashire, the largest in England, about 7,000 acres in extent, and celebrated as having been the scene of the first great and successful efforts for the reclaiming of bogs, by Mr. Roscoe of Liverpool, in the end of the 18th and beginning of the 19th c., and of one of the great engineering triumphs of George Stephenson in the construction of the Liverpool and Manchester railway. It is between Liverpool and Manchester, at no great elevation above the sea. It is from 20 to 30 ft. in depth, and of such consistence that when an attempt was first made to survey it for the Liverpool and Manchester railway, the attempt was relinquished because of the impossibility of obtaining a sufficiently solid stand for the theodolite. Drains are filled up almost as fast as they are cut, by a pulpy stuff flowing into them, and affect only a few feet on either side. Great danger is experienced by any person stepping unwarily on the surface of the bog; and when he begins to sink, his struggles to extricate himself only cause him to sink faster and deeper. Mr. Roscoe's agricultural improvements were effected by numerous parallel drains in the parts on which he operated. His workmen used *pattens*, and pattens were adapted also to the feet of the horses employed: see BOG. The enlargement of the circle

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upon which a horse's foot rests from five inches diameter to seven, nearly doubles it, and consequently diminishes nearly by one-half the pressure on each unit of surface. Mr. Stephenson, when he could find no one to countenance him in his views, calculated with confidence on the application of this principle to the railway, so that even the ponderous locomotive and train might be supported by a sufficient extension of the bearing surface; and this he accomplished by spreading branches of trees and hedge-cuttings, and in the softest places rude hurdles interwoven with heather, on the natural surface of the ground, containing intertwined roots of heather and long grass; a thin layer of gravel being spread above all, on which the sleepers, chairs, and rails were laid in the usual manner. Drains were at the same time cut on both sides of the line, and in the central part of the moss a conduit was formed beneath the line of railway, of old tar-barrels placed end to end. Notwithstanding difficulties which every one but himself deemed insuperable, Mr. Stephenson constructed the portion of the line through C. M. at a smaller expense than any other part of the railway. There still is 'a sort of springiness in the road over the moss, such as is felt when passing along a suspension-bridge;' and 'those who looked along the moss as a train passed over it, said they could observe a waviness, such as precedes and follows a skater upon ice.'

The complete reclaiming of C. M. for agricultural purposes can be only a question of time and expense. It seems capable of becoming one of the most productive tracts of land in England.

CHATOYANT, *sha-toy'ant*: term denoting the changeable gleam which seems to start from deep within some minerals, such as 'cat's-eye' (q.v.)

CHATRE, LA, *lā shāt'r*: town of France, dept. of Indre, on the left bank of the river Indre, 20 m. s.e. of Châteauroux. It has a communal college, a primary tribunal, a ruined castle, a fine church, and manufactures of wool and leather. Chestnuts are produced abundantly. Pop. 5,167.

CHATS, n. plu. *châts*, or CHITS, n. plu. *chîts* [an imitative word: prov. Eng. *chaits*, fragments: F. *éclats*, splinters: W. *cidys*, fagots]: in *OE.*, little sticks fit for fuel; twigs; fragments or leavings.

CHATSK, or SCHAZK, *shâtsk*: town of European Russia, govt. of Tambov, 175 m. s.e. of Moscow, on the small river C. It is in the midst of a vast fertile plain, contains a number of churches, and has a trade in hardware, grain, and cattle. Pop. 7,260.

CHATSWORTH: the magnificent mansion and grounds of the Duke of Devonshire; one of the most splendid private seats in England; in Derbyshire, on the Derwent, 12 m. n. by w. of Matlock. William the Conqueror gave the domain to his natural son William Peveril. It was purchased by Sir W. Cavendish in Queen Elizabeth's time. Sir W., 1570, began the old mansion, which was finished by his widow, afterward Countess of Shrewsbury. In this building Mary

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Queen of Scots was imprisoned for 13 years. The present edifice, called a palace from its grandeur, includes the old Ionie pile, 183 by 172 ft., built 1687–1706, by the first Duke of Devonshire, after designs by Talman and Wren. The great stables were built about 1706, and the north wing since 1720. The façade is 720 ft. long, or with the terraces, 1,200 ft. The building is nearly a square, with an interior court. C. is famed for its pictures, sculptures, hangings, carvings, and bas-reliefs. There are some exquisite sculptures by Canova, Thorwaldsen, Chantrey, etc. The grounds around are 9 m. in circuit, including hill and dale, and fine prospects. They were laid out by Loudon and Paxton, and are celebrated for their trees, shrubs, rock-work, deer, and water-works—surpassed only by those at Versailles. The conservatory, unrivalled in Europe, covers nearly an acre, measures 300 by 145 ft., and 65 ft. high, has 70,000 sq. ft. of glass, and a carriage-road through it. Hobbes, the philosopher, lived long at Chatsworth.

CHATTAHOOCHEE, *chăt-tă-hō'chē*: river rising in the n.e. corner of Georgia, which it traverses. It becomes the boundary between Geo. and Ala.; and finally, after receiving the Flint, crosses Fla., under the name of Appalachicola (q.v.), into the Gulf of Mexieo. Total length, 550 m.; navigable for 300.

CHATTANOOGA, *chăt-tă-nō'ga*: city of Tenn., cap. of Hamilton co., at the foot of Lookout Mountain, near the Ga. line. It is on the left bank of the Tenn. river, which is navigable most of the year; abt. 200 m. by water below Knoxville, 150 m. s.e. of Nashville, by the Nashville and C. railroad. The Western and Atlantic railroad connects it with Atlanta, abt. 150 m. s.e., and the Alabama and C. with Meridian, Miss., 295 m. s.w. The Cincinnati Southern, the East Tennessee Virginia and Georgia, and the Memphis and Charleston railroads have termini here. Since the close of the civil war C. has become one of the most noted manufacturing cities south of Mason and Dixon's line. Its neighboring hills yield abundant coal and iron, and within the city upward of 350,000 tons of pig-iron are annually produced, utilized in great part by six great iron, nail, steel, and machine companies, employing over 2,500 hands the year round. Other industries embrace two cotton factories, one of the largest tanneries in the world, a railroad car factory, a pipe and pump factory, a furniture factory, two rolling mills, a furnace and foundries. The wholesale trade is quite extensive and has representatives in every branch. It was around C. that some of the great battles of the civil war were fought. A great historic and military interest will always be attached to Lookout Mountain, which towers nearly perpendicularly 2,000 ft. above the city and almost in its midst. From Point Lookout, at the top of the mountain, the tourist can look upon seven states, and on the scene of Gen. Hooker's celebrated fight above the clouds; on Raeoon Mountain and Walden's Ridge on the one hand, and Chickamauga and Missionary Ridge on the other, besides feasting his eye on stretches of rugged

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scenery that will repay a long journey. C. is a shipping point for e. and middle Tenn , is supplied with churches, schools, banks, and newspapers, and with its abundant means of communication and its outlying coal, iron, and timber interests is destined to become a most important industrial centre. Pop. (1870), 6,093; (1880) 12,892; (1890) 29,100; (1900) 32,490.

CHATTANOOGA, BATTLES OF: near Chattanooga in the civil war, 1863. After the battle of Murfreesboro, or Stone river, 1862, Dec. 31—1863, Jan. 2, in which the Confederates under Gen. Bragg were defeated by Gen. Rosecranz, the former fell back on C. the remaining Confederate stronghold in Tennessee. By the middle of July Rosecrans was prepared to follow Bragg, and with Sheridan, Reynolds, McCook, and Brannan, crossed the Tenn. river at points where they would be least observed; Crittenden pushed on toward Lookout Mountain and C., while Thomas moved across Missionary Ridge to the Chickamauga valley. Thus menaced Bragg retired from C. into Georgia, drawing up at Lafayette and calling for aid. Buckner hastened to him from e. Tenn., and Lee sent forward Longstreet's veterans. Rosecrans supposed Bragg to be retreating on Rome, and pushed on in that direction; but, Sep. 10, his vanguard struck the enemy in force at Tunnel Hill and Dug Gap. Finding the enemy not weakened but heavily reinforced, Rosecrans drew up his force, with seven divisions forming the main line, ranging from right to left from Gordon's Mill northward, with Gen. Granger in reserve covering the roads to C. The battle opened 1863, Sep. 19, at two bridges over the Chickamauga, where Gen. Thomas was in command. Assault after assault was made till nightfall, but Thomas held his ground. The next day Bragg again failed to get between Thomas and C.; but Longstreet and Hood cut through a gap on Rosecrans's right, exposed by a misconceived order, separated five brigades from the rest of the army, and sent the rest in confusion toward C. Rosecrans rallied and hastened thither to hold the city, leaving the main body of the army under Thomas, who provided against any attack in the rear and awaited the general attack or his front .hat seemed inevitable. Gen. Granger hastened to his support from Rossville and repelled Hindman's attempt to assault the right of the line in flank and rear. At 4 P.M. Bragg made the expected attack on all points of Thomas' line; but the Union commander withstood and repelled assault after assault till sunset, when, by order of Rosecrans, he began to withdraw from the position he had so skilfully held, and on the 21st rested within the defenses of C. The battle of Chickamauga saved C. and e. Tenn. to the Union. Gen. Rosecrans secured the strategic object of his campaign, though he could not claim the victory. The Confederates lost in killed and wounded 18,000, and the Union forces 16,000. On Oct 19, Rosecrans was superseded in the command of the dept of the Cumberland by Thomas, who, with Sherman, Hooker, and Burnside, was placed under Grant as commander of

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the div. of the Mississippi. Longstreet, by cutting off supplies, held Thomas for some weeks shut up in C., and in some danger of starvation; from this siege he was relieved, Oct. 27-29, by Grant, who sent Hooker with the 11th and 12th corps (lately arrived from the Army of the Potomac) across the river at Bridgeport to menace Bragg, while W. F. Smith crossed at Brown's Ferry below C. to secure some points of Lookout Mountains commanding the river. In thus reopening communications between Thomas and his base of supplies, the Union loss was about 450, and the Confederate about 1,500. The arrival of Sherman's troops raised the Union army to 80,000, against 50,000 of the enemy, placed in a semi-circle on the heights opposite. Thomas attacked, Nov. 23, at 2 P.M., and took the first line of the enemy's rifle pits. Next day he held and strengthened this position, while Sherman attacked Missionary Ridge, and Hooker with 10,000 men, hidden by a fog, climbed the slopes of Lookout Mountain, surprised the Confederate left, took 2,000 prisoners, and encamped for the night, while the enemy abandoned the ground. This was the battle of Lookout Mountain, 'above the clouds,' Nov. 24. Next day Sherman renewed his assault on the Confederate centre and right on Missionary Ridge, a position supposed impregnable. Several attacks were repelled, but in the afternoon three divisions of Thomas, under Sheridan, Baird, and T. J. Wood, stormed the ridge, broke the enemy's line, and turned Bragg's guns on his own troops, who fled in disorder, and continued their retreat during the night. Sherman and Hooker pursued next day, and dislodged them from Taylor's Ridge, near Ringgold, Ga., Nov. 27. In these actions 40 guns, 7,000 small arms, and 6,142 prisoners were taken by the Union army. The Confederates' loss in killed and wounded was variously estimated at from 2,500 to 4,000; that of the Federals was in all about 6,000. The result was to cut off Bragg's connection with Longstreet, to force the latter to abandon the siege of Knoxville and return to Va., and thus to remove the war from Tenn., till it was resumed by Hood, 1864, at Franklin and Nashville.

CHATTELS, n. *châ'tels* [F. *châtel*; OF. *chaptel*, a piece of movable property—from mid. L. *captâle*, the principal, as distinguished from interest: comp. Gael. *caithdiol*, the spoil of battle]: goods in general, with the exception of lands or houses—anciently applied to cattle, as being the principal wealth of the country. GOODS AND CHATTELS, in law, movable property, and estates in land limited to a certain number of years: see CATTLE. In the ancient law of England, *chattel* from a positive point of view, included not only all movable property, but all property which, though immovable, was not held on a feudal tenure. Any estate, then, or interest in lands and tenements not amounting to freehold, is a chattel. But as, between property thus 'savoring of reality' and mere personal movables—money, plate, cattle, and the like—there was a manifest distinction; chattels were, consequently, distinguished into *chattels-real* and *chattels-personal*. Both descriptions of C., in the an-

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cient law of England, were regarded as inferior to freehold, and formed a subordinate class of property. As distinguished from estates of inheritance, or for life in things immoveable, such estate is called *personal*, the others being *real* estate. Recent changes in English laws show a tendency to obviate at some points the distinction between these classes of property.

CHATTERER : significant popular name, often applied to the birds of the family *Ampelidae*, a family of the order *Insecessores* and tribe *Dentirostres*, having a depressed bill like that of the fly-catchers (*Muscicapidae*), but somewhat shorter and broader in proportion, and slightly arched. To this family belong the cotingas, wax-wings, piauhaua, caterpillar-hunters, etc. They are found chiefly in the warmer parts of the old world, though America also produces some. They inhabit low grounds or forests, feeding chiefly on insects and their larvae. Some of them possess powers of song almost equal to those of the nightingale. Many of them are birds of gorgeous plumage: see WAX-WING.

CHATTERTON, *chät'er-ton*, THOMAS : 1752, Nov. 20—1770, Aug. 25; b. Bristol, England : poet, whose youth, genius, and tragical death have made him one of the wonders of English literature. His father, who had once been a chanter in the Bristol cathedral, and also master of a kind of free-school, died two or three months before the poet's birth. C. was educated at a parish-school, was considered a dull child, but making acquaintance with a black-letter Bible which his mother often used, the dormant spirit flashed up. From early years he was fond of all kinds of antiquities ; he clung around old walls like the ivy, and haunted twilight ruins like the bat. At the age of 14, he was apprenticed to Mr. Lambert, an attorney. His situation here was uncomfortable; he took his meals in the kitchen with the footboy, and when refractory, was chastised with a ruler. In 1768, Oct., the new bridge at Bristol was opened, and C. sent to a newspaper an account, in antique phraseology and spelling, of the ceremonies attending the opening of the old one several centuries before—the whole purporting to be taken from an ancient MS. To a certain Bristol pewterer, Burgum by name, he presented himself, and astonished the craftsman by the sight of a parchment, in which his pedigree was traced back to the Norman Conquest, adorned by many a splendid marriage, and many a knightly name. He also exhibited to his friends copies of old poems, which he said were composed by one Thomas Rowley, a monk of the 15th c. These matters made some stir in his native city, but not enough to satisfy C., who resolved to fly at higher game. Accordingly, Horace Walpole, at that time collecting additional materials for his *Anecdotes of Painting in England*, received from C. several pages of antique writing, accompanied by a short note. The pretended MS. gave biographical sketches of celebrated painters who had flourished in England several centuries ago, and of whose existence Walpole had never dreamed. Walpole, put off his guard, answered his unknown correspond-

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ent at once ; expressed his delight at receiving the MS., and desired, as a personal favor, that all the other antique writings, poems included, mentioned in the note, should be forwarded. C., highly elated, immediately sent accounts of a great many more painters and poets, and also gave some slight sketch of his personal history. On receipt of this second communication, Walpole suspected a trick. The poems he showed to Mason and Gray, who at once pronounced them forgeries ; he then wrote C., expressing his suspicions as to the genuineness of the MS., and administering at the same time a great deal of excellent advice. C. replied, desiring that the MS. should be returned at once ; but by the time the letter reached London Walpole was about to start for Paris, and it was allowed to remain unanswered. On Walpole's return, some six weeks thereafter, a fierce note from C. waited him, the contents of which must have brought the blood to his polished and urbane brow ; indignant, he bundled up the MS. and returned it without a word of explanation.

From his earliest youth C. had a ghastly familiarity with the idea of suicide. Among his papers, preserved in the British Museum, is a last will and testament 'executed in the presence of Omniscience, the 14th of April, 1770,' full of the wildest wit and profanity. Another document of similar purport, falling into the hands of his friends, led to his dismissal from Mr. Lambert's office. Released from what he considered the slavery of law, C.'s eyes turned to London ; and in that city he arrived, carrying with him all his Rowley MS. and several modern poems, and 1770, Apr. 24, Tuesday, took up his abode with one Walmsley, a plasterer, in Shoreditch. No sooner had he settled there than he began to work as with a hundred hands. During the last few months of his life, he poured forth squibs, satiric poems, political essays, burlettas, letters in the style of Junius, and meditated writing a history of England, to appear in parts. For a time his prospects seemed golden enough. He obtained an introduction to Lord Mayor Beckford ; he sent glowing letters home, accompanied by presents to his mother and sisters. Ultimately he left the plasterer's in Shoreditch, and took lodgings in Brooke street adjoining Holborn. Unhappily for C., editors of opposition papers were willing enough to insert and praise his articles, but were disinclined or unable to render an equivalent in cash. Possibly they conceived that a patriotism so ardent must be its own reward. The means of life were now fast failing. In desperation, he attempted to procure an appointment of surgeon's mate in a vessel going to Africa, but failed. This was the last drop that made the cup overflow. On Aug. 25, Saturday, his landlady, alarmed that her lodger did not make his appearance, had the door of his room broken open ; saw the floor littered with small pieces of paper, and C. 'lying on the bed with his legs hanging over, quite dead.' Just at this time, Dr. Fry, of Oxford, who had seen or heard something of the Rowley poems, was on the eve of starting for Bristol to make inquiry into the matter. Sad enough to think on now—a

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little promptitude on the one hand, a little patience on the other, and the catastrophe might have been averted.

C. died before he reached his 18th year, and takes his place as the greatest prodigy in literature. Indeed, in our judgment of him, age cannot be taken into account. He never seems to have been young. His intellect was born fully matured. He was equally precocious in other respects. In his letters, he speaks of the relation of the sexes in the tone of a sated *roué*. He never seems to have felt the delicious shame and ingenuousness of youth; over his heart never was outspread 'the bloom of young desire and purple light of love.' The *Kew Gardens* is written in the style of Churchill, and it possesses all that master's vigor, and every now and then we come on a couplet turned with the felicity of Pope. His genius, however, is in its greatest perfection in the ancient poems. No poet, before or since, has written a tenderer strain than the lament in *Aella*, or conceived a bolder image than the personification of 'Freedom in the ode to Liberty in his *Tragedy of Godwin*. C.'s life has been written by many hands, but the best and most sympathetic sketch of it is that given by Prof. D. Masson of Edinburgh Univ. in his collected essays. See *The Poetical Works of Thomas Chatterton*, by the Rev. Walter Skeat, M.A. (1875).

CHAUCER, *chaw'sér*, GEOFFREY: the father of English poetry: prob. abt. 1340 (traditional date 1328)–1400, Oct. 25. Recent researches have made it clear that C. was the son of John Chaucer, a London vintner. It has been said that he studied at Cambridge, and afterward removed to Oxford. While at the univ. he wrote *The Court of Love*, and *The Book of Troilus and Cresseide*. At one period he seems to have turned his attention to law, and to have become a member of the inner temple. About these matters his biographers, knowing little, have conjectured much. The only particular of C.'s youth of which an anxious posterity can be certified is, that he one day thrashed a Franciscan friar in Fleet street, and was fined two shillings for the exploit on the next. History has preserved this for us, but has forgotten all the rest of his early life, and the chronology of all his poems.

In 1359, C. assures us, on his own authority, that he served under Edward III. in his French campaign, and was therein made prisoner. The date of his return from captivity, and of his subsequent marriage, cannot now be ascertained. He espoused Philippa, youngest daughter of Sir Payne Roet, whose estates lay in Hainault. His wife's sister, Katherine, ultimately became the wife of John of Gaunt, Duke of Lancaster; and it may be presumed that the high connection thus established aided the poet's advancement in life. After his marriage, he began to mix in public affairs. He was sent on an embassy to Genoa, 1372, and on that occasion has been supposed by some to have had an interview with Petrarch, then residing at Padua, and to have heard from his lips the story of *Griselda*. On his return, he was appointed comptroller of the customs for wools, and in the same year the king

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granted him a pitcher of wine daily for life. In 1377, C. proceeded to Flanders in the retinue of Sir Thomas Percy, afterward Earl of Worcester; and for several years thereafter he was employed assiduously in embassies and other business connected with the public service. In 1386, a commission was issued to inquire into alleged abuses in the department of the customs, and in Dec. C. was dismissed from his comptrollership. On meeting this fact, one cannot help remembering that Edward made the writing out of the accounts in C.'s own hand the condition of his holding office. Had the great poet neglected his duties? It has been conjectured by some that after his disgrace C. became embarrassed in circumstances, and apparently with reason, for about this time he cancelled both his pensions, and consigned them to one John Scalby, 'to whom they were probably sold under pressure of distress,' says his latest biographer. In 1387, C. lost his wife. Where he spent his closing years, cannot now be ascertained. Godwin surmises that in his distress he retired to Woodstock and composed there *The Canterbury Tales*. It seems, however, nearly certain that during the last years of his life he was resident in London. There he died, and was buried in Westminster Abbey, the first of the long line of poets whose ashes repose in that venerable pile.

C. was a worthy representative of the 14th c. He was a master of the science, the theology, and the literature of his time. He had seen many men and cities. His poems are numerous, and of various poetical excellence. Many scholars deny, on grounds of rhyme, that C. was author of *The Court of Love*, *The Flower and the Leaf* and *The Romaunt of the Rose*, long unhesitatingly regarded as his. These are chiefly on French models, and are gorgeous allegories full of queens and kings, bowers, bevies of beautiful ladies, brave knights, and pious nightingales that sing the praises of God. They appeal potently enough to the eye, but they do not in the slightest degree touch the heart, or relate themselves to human concerns. Quite different *The Canterbury Tales*, so full of humor, pathos, and shrewd observation. In these tales English life, as it then existed, is wonderfully reflected—when the king tilted in tournament, when the knight and the lady rode over the down with faleon on wrist, when pilgrimages bound for the tomb of St. Thomas passed on from village to village, when friars sitting in tavern over wine sang songs that formed a remarkable contrast with the services they so piously and sweetly intoned. All that stirring and gaily-apparelled time—so different from our own—is seen in C.'s work, as in some magic mirror; and in his case, as in every other, when the superficial tumults and noises that so stun the contemporary ear have faded away, leaving behind that which is elemental and eternal, the poet is found to be the truest historian. Among C.'s writings may be mentioned: *The Book of the Duchess*, *The House of Fame*, and *The Legend of Good Women*. The genuineness of *The Court of Love* and of *The Flower and the Leaf* is

CHAUCI—CHAULIAC.

denied by Mr. Furnivall, and by Mr. Skeat in his new edition of C. (4 vols., 1878).

CHAUCI, *kaw'si*: ancient tribe, between the Ems and the Elbe in Germany; mentioned by Tacitus as powerful and brave, but peaceable and just. See SAXONS.

CHAUDES-AIGUES, *shōd-zūg'*: town of France, dept. of Cantal, about 12 m. s.s.w. of St. Flour. It is noted for its hot mineral springs, which have the property of discharging grease from sheep's wool; and vast numbers of fleeces are sent hither annually to be washed. The waters are also taken for rheumatism and cutaneous diseases. Pop. 1,200.

CHAUDET, *shō-dā'*, ANTOINE DENIS: 1763, Mar. 31—1810, Apr. 19; b. Paris: sculptor. He took the first prize of the Acad. at the age of 20, and became a member on his return from Rome, where he was intimate with Drovais, the painter. His opposition to the corrupt classicism of that age retarded his fame, which was established by his *Oedipus*, exhibited 1801. His first work was a bass-relief, *Love of Glory*, under the peristyle of the Pantheon. Some of his best, in the museums of Luxembourg and Trianon and elsewhere, are *Sensibility*, *Cyparissa*, *Surprise*, *Paul and Virginia*, *Cincinnatus*, and the bass-relief of *Joseph and his Brethren*. Another, representing *Painting, Sculpture, and Architecture*, is in the Musée Napoléon. C. was also a good painter and designer, and illustrated Didot's edition of Racine and some other books. He died in Paris. His wife, Jeanne Élisabeth Gabion (1767—abt. 1830), was his pupil, and attained eminence as a painter of portraits and figure pieces.

CHAUDFONTAINE, *shōd-fōng-tān'*: village charmingly situated in the valley of the Vesdre, a few miles from Liège, in Belgium, and noted for a hot spring which supplies hot-baths. There are hotels and lodging-houses for the accommodation of visitors. The place is a favorite resort of the Liégois. There is here a station on the railway from Liège to Aix-le-Chapelle. Pop. 1,400.

CHAUDIÈRE, *shō-de-är'*: a river, and lake, of Canada. The river joins the St. Lawrence from the s., about 7 m. above Quebec, forming the celebrated falls of its own name, about $2\frac{1}{2}$ m. from its mouth.

The lake—merely one of the many expansions of the Ottawa—has on its right the city of Ottawa, the metropolis of the united colony.

CHAUD-MEDLEY: see CHANCE MEDLEY.

CHAUFFER, n. *chōffēr* [F. *chauffer*, to heat]: a small furnace; a round box or sheet-iron for containing a fire, open at the top, with a grating near the bottle.

CHAULDRON: see CHAWDRON.

CHAULIAC, *shō-le-āk'*, or *shōl-yāk'*, or CHAULIEU, *shō-le-ēh'*, or *shōl-yēh'*, GUI DE: French surgeon of the 14th c. He studied at Montpellier and Bologna, practiced at Lyons, and was physician to three of the Avignon popes, Clement VI., Innocent VI., and Urban V. His *Inventarium*,

CHAUMETTE—CHAUMONT.

translated into French by Laurent Joubert, 1592, as *Grande Chirurgie*, is claimed to have laid the foundations of the modern principles and practice, and was for 200 years esteemed the highest authority. C. revised the professional knowledge of antiquity, invented instruments, and operated for cataract. He wrote from experience an account of the plague in France, 1348.

CHAUMETTE, *shō-mēt'*, PIERRE GASPARD: 1763–1794, Apr. 13; b. Nevers: one of the most extravagant characters of the French Revolution. He made his first public appearance at the Cordeliers Club, where he was introduced by Camille Desmoulins. His ‘sans culottism’ gained him such popularity, that he was appointed procurator of the community of Paris, in the place of Manuel. C. was very enthusiastic in favor of the ‘worship of reason.’ In his zeal, he rejected his own Christian name, Pierre, as having been sullied by saintly associations, and styled himself ‘Anaxagoras.’ The institution of the tribunal of the Revolution, the decree for a revolutionary army, and the law against suspected aristocrats, were carried into effect by C. with others. He also proposed that the whole French nation should be made to wear wooden shoes, and to subsist on potatoes; but this was too much even for the chimerical enthusiasm of his compatriots. His antics, however, in connection with the ‘worship of reason’ excited the disgust of Robespierre, who devised measures for bringing the whole company of actors under Hébert to the scaffold. C. was arrested and imprisoned on a charge of having been implicated in a plot against the convention, and was put to death.

CHAUMONOT, *shō-mo-no'*, PIERRE MARIE JOSEPH: 1611–93, Feb. 21; b. near Châtillon-sur-Seine: Canadian missionary. Beginning life with the robbery of an uncle, he soon repented, became a Jesuit and a priest at Rome, went to Quebec with Poncet, 1639, and gave himself to the instruction of the Hurons and Neutrals. After the dispersion of the former by the Iroquois, he made a Christian settlement of Hurons at Isle Orleans, 1651, spent 1655–58 with the Onondagas, and aided to establish the mission of Notre Dame de Foye, five m. from Quebec. This was removed, 1693, to Lorette, and there he died. He wrote a Huron grammar, published by the Literary and Historical Soc. of Quebec, 1835; a vocabulary, a catechism, and a set of instructions, also in Huron, and a French memoir of his life, which remain in MS.

CHAUMONT, *shō-mōng'*: town of France, dept. of Haute-Marne, on an elevation between the rivers Marne and Suize, about 140 m. s.e. of Paris. It is generally well built, with clean, spacious streets, and fine promenades round the upper part of the town. There are considerable manufactures, including hosiery, cotton-yarn, gloves, etc. 1814, Mar. 1, the allied powers here bound themselves by treaty against Napoleon, in the event of the negotiations at Châtillon ending unsatisfactorily. Pop. (1891) 13,280.

CHAUMONT, DONATIEN LE RAY DE: a councilor of

CHAUNCEY.

Louis XV., grandmaster of the waters and forests, and honorary intendant of the Hôtel des Invalides. C. purchased, 1776, Aug., the château of Passy, a house adjoining which was offered to Benjamin Franklin on his arrival in Paris 1776, Dec., and occupied by him for nine years; in it he wrote his autobiography, and on it he placed the first lightning-rod in Europe. C., who was then wealthy, offered a château at Blessois to John Adams, sent powder and clothing to the American army, and equipped five vessels for Paul Jones, with whom he was on terms of intimacy. He maintained confidential relations with the French government, and was its most active agent in conducting its operations in support of American independence. His large tracts of land in northern N. Y. passed to his son of the same name (1761–1840), who was impoverished by them and forced to make an assignment. His 348,206 acres in Franklin, St. Lawrence, Jefferson, and Lewis counties were once valued at \$835,500. The towns of C. and Raysville were named from him. He founded the Jefferson Co. Agricultural Soc., and was among the first presidents of that of the state. After long residence in N. Y. he returned to France, and died in Paris. See articles by the Hon. John Bigelow in the *Century Magazine*, 1888, March.

CHAUNCEY, or CHAUNCY, *chān'sī*, or *chawn'sī*, CHARLES, LL.D.: 1747, June 11—1823, Apr. 28; b. Durham, Conn. He was admitted to the bar at New Haven 1768, made state attorney 1776, and judge of the superior court 1789–93. He lectured on jurisprudence for 40 years, and was a founder and pres. of the Conn. Agricultural Soc. He died at New Haven. His son, Charles C. (1777–1849), removed to Philadelphia 1798, and won the highest rank at the bar there, but declined all offices.

CHAUNCEY, or CHAUNCY, ISAAC, U.S.N.: 1772, Feb. 20—1840, Jan. 27; b. Black Rock, Conn. Entering the merchant service in boyhood, he was a captain at 19, made several voyages to the East Indies for John Jacob Astor, and once brought a ship from Charleston to New York unaided, when all the crew were down with yellow fever. He became a lieut. in the navy on its organization 1798; was acting capt. of the frigate *Chesapeake* 1802; distinguished himself in the war with Tripoli 1804; was thanked by congress and voted a sword, which was never presented; was promoted master 1804, capt. 1806. He was in command of the Brooklyn navy-yard 1808–12, and then of the lakes. Reaching Sackett's Harbor 1812, Oct., he constructed a fleet, kept watch of the enemy, co-operated with the land forces under Gen. Pike in the capture of York (now Toronto) 1813, Apr. 25, defeated a British fleet in York Bay Sep. 27, took five vessels with part of a regiment Oct. 5, and blockaded Sir James Yeo at Kingston for six weeks, 1814, Aug. and Sep. He commanded the Mediterranean squadron 1816–18, negotiated a treaty with Algiers, was again in command of the Brooklyn navy-yard, and was pres. of the navy commission from 1833. He died at

CHAUNCY—CHAUSSES.

Washington. His is one of the great names of the U. S. Navy in its earlier days.

CHAUNCY, CHARLES, D.D.: 1705, Jan 1—1787, Feb. 10; b. Boston; great-grandson of the pres. of Harvard. He graduated at Harvard 1721, and was ordained 1727 as colleague pastor of the First Church in Boston; there he remained for 60 years. His learning and independent spirit were shown in numerous publications, as *Seasonable Thoughts on the State of Religion in New England* (1743); *Dudleian Lectures* (1762); *Benevolence of the Deity* (1784); *Mystery hid from Ages* (1785); *On the Fall and its Consequences* (1785). They are largely polemic, as *Remarks on the Bishop of Llandaff's Sermon* (1767). His *Complete View of Episcopacy* (1771) was a discussion with Dr. Chandler of N. J., and his *Discourse on Enthusiasm* (1742) was aimed at Whitefield.

CHAUNCY, or CHAUNCEY, chān'sī or chawn'sī, CHARLES: 1592-1672, Feb. 19; b. Yardley, Hertfordshire, England: second president of Harvard College. He was educated in Westminster and Cambridge, England; was prof. first of Hebrew and then of Greek in the Univ. of Cambridge, and became vicar of Ware, Hertfordshire, 1627. Imprisoned and fined for denouncing the Book of Sports and the Chancel Railing, he recanted, repented of his recanting, and emigrated. Reaching Plymouth, Mass., 1638, he was reordained, remained there three years as asst. minister, went to Scituate as pastor 1641-54, and was about returning to his vicarage at Ware (now under the commonwealth) when he was asked to succeed Henry Dunster as pres. of Harvard. Entering on this post 1654, Nov. 27, he held it till his death. He was an industrious and learned man, eminent as a physician, and zealous against long hair and the baptism of the children of non-communicants. He published a *Retraction* (1641, written 1637), some sermons 1655-6, 26 on *Justification* (1659), *Antisynodalia Americana* (1662), and an article prefixed to Leigh's *Critica Sacra* (1639). His six sons all graduated at Harvard and became ministers. He is said to be the ancestor of all Americans of his name. The family history is given by W. C. Fowler in *The Chauncey Memorial* (1858).

CHAUNY, shō-nē': town in France, dept. of Aisne, about 18 m. w.n.w. of Laon; partly on the right bank of, and partly on an island in, the river Oise, which is here navigable. It is an old, rather uninteresting place, with manufactures of sacking, hosiery, chemicals, and leather, and an active trade. Pop. 9,000.

CHAUSSES, shō-sā': in the armor of the middle ages: defense-pieces for the legs. Some were of padded and quilted cloth, with metal studs; some of chain-mail; some of riveted plates; and some of banded mail. It was not unusual to fasten them by lacing behind the leg.

CHAUTAUQUA INSTITUTIONS.

CHAUTAUQUA INSTITUTIONS: various institutions centring in Chautauqua co., near the extreme western end of N. Y. The chief of these are the following:

CHAUTAUQUA ASSEMBLY: institution established by the Hon. Lewis Miller, of Akron, O.; and the Rev. John H. Vincent, D.D., of New York. It received its name from its location upon a point of land on Chautauqua Lake, originally known as Fair Point, 16 m. from Jamestown, 3 m. from Mayville, Chautauqua co., N. Y. Chautauqua Lake is a few miles s. of Lake Erie. The first session was held 1874, Aug., and annual sessions have been held since. The original plan was of a gathering in the forest, where, for a fortnight or more, Sunday-school teachers could receive instruction for their work by lectures, normal classes, Bible readings, a model Sunday-school, and other exercises, the 'week-day' features of true Sunday-school work being largely recognized. Many thousand people attended and nearly 200 teachers passed through a regular course, with examination, required readings, and certificate at the close. The success of the first meeting led to the permanent organization of the Chautauqua Assembly (Lewis Miller, pres., and J. H. Vincent at first called 'supt. of instruction,' and now 'chancellor'). At its annual sessions many new features have been introduced, largely outgrowths of the 'week-day power' idea which found place in 1874; and the place has become a centre of popular education, not merely in Sunday-school knowledge, but in every department, and for all varieties of students. The work has been systematized into departments, such as the College of Liberal Arts, Teachers' Retreat, etc., with regular courses of instruction, embracing (1888) classes in the English, German, French, Spanish, Italian, Swedish, Sanskrit, Latin, Greek, Hebrew, Assyrian, and other languages; in mathematics, the natural sciences, history, mental and moral science, pedagogics, the English Bible, theology, Sunday-school and church work, etc. Courses of popular and scientific lectures, concerts, and varied entertainments also are given. The grounds embrace nearly 150 acres upon the western shore of the lake, and laid out in parks and streets, lined with cottages and lecture halls. Among the most important buildings are the Amphitheatre, built in a natural ravine, and seating nearly 6,000 people; the Hall of Philosophy, a Greek temple in form, the headquarters of the Chautauqua Literary and Scientific Circle (see below); the Hotel Athenæum; the Normal Hall; the College of Liberal Arts, in which are held many of the classes of the various schools; the Museum of Archeology, containing a collection of casts, photographs, and models of works of art; and the Children's Temple, in which the young people's department holds its meetings. The summer schools open about July 1 in each year; the assembly proper opens on the first Tuesday in August, and extends through three weeks. As an outgrowth of the Chautauqua movement, assemblies upon the same plan have been established in various parts of the country. They are independent, but affiliated in their work, having in nearly all of them the same normal course for Sunday-school teachers.

CHAUTAUQUA INSTITUTIONS.

(the Chautauqua Normal Union, A. E. Dunning, principal), and the C. L. S. C., with its 'Recognition Day' for conferring diplomas. Among the largest of these 'Chautauquas' (as they are called) are the assemblies at Framingham, Mass.; Lakeside, O.; Island Park, Ind.; Monona Lake, Wis.; Waseca, Minn.; Ottawa, Kan.; De Funiak, Fla.; Long Beach, Cal.; Piedmont Chautauqua, Atlanta, Ga.; Monteagle, Tenn.; Northfield, Mass.; Round Lake, N. Y. And there are many others.

CHAUTAUQUA LITERARY AND SCIENTIFIC CIRCLE: educational institution for the promotion of reading in the homes of the people, established by the Rev. Dr. John H. Vincent, at Chautauqua, 1878, and since introduced, not only among all English-speaking peoples, but also in India, Japan, and Syria. Its plan includes a four years' course of reading, modelled somewhat upon the college course, but all in the English language, and adapted for reading rather than for study. The literature and history read in each year of the course is that of a different people, being in succession American, English, Greek, and Roman. Each of the important sciences is treated in a text-book, giving general, rather than technical knowledge. The course embraces from six to eight books each year, besides required readings in *The Chautauquan*, a magazine which is the organ of the C. L. S. C., published at Meadville, Penn., edited by the Rev. T. L. Flood, D.D. A peculiarity of the plan is that no one year's readings are regarded as 'first year,' 'second year,' etc.; but the entire membership of the circle, on any given year, as 1888, take the same studies, which may be the *first* year to some, the *second* year to others, the *third* to those who joined in 1885, etc. The circle goes through the course in any given four years, but each class pursues the studies in a different order. Each student takes up the course with whatever year's reading the circle may be at work on, and in four years will have gone the round of studies. The plan of study and reading may be pursued either by individuals or by groups of readers, united in local circles. The enrolled membership (1888) is more than 80,000 in number, including readers in nearly every town of the United States and Dominion of Canada, in England, continental Europe, the Cape of Good Hope, Australia, the Sandwich Islands, etc. There are about 2,000 readers in Japan, pursuing the course in their own language, and having their own Japanese *Chautauquan Magazine*. It has also been introduced into Russia, into Syria, and into India. The annual meetings of the C. L. S. C. are held at Chautauqua, N. Y., during the assembly, and consist of reviews of the course, gatherings for social enjoyment, Sunday afternoon vesper-services, a daily 'Round Table,' in the Hall of Philosophy, and the annual service of conferring diplomas on those who have completed the course, on 'Recognition Day.' Similar exercises are held in all the Sunday-school assemblies throughout the United States, which now number nearly 50. The officers of the C. L. S. C. are: Chancellor, John H. Vincent; first vice-president, Wilson M. Day; treasurer, Warren F. Walworth; chairman of

CHAUTAUQUA LAKE.

the Executive Board, Joseph C. Neville; executive secretary, Kate C. Kimball; general director, Scott Brown; secretary, Ira M. Miller.

CHAUTAUQUA COLLEGE OF LIBERAL ARTS: that department of the Chautauqua Univ. that offers full college courses and training to non-resident students. It is peculiar, not in the kind or amount of instruction offered, but in the method of communication between teacher and student. It was opened in its new form for instruction 1884, Oct., but had been in practical operation for several years. It is authorized by its charter to confer the regular college degrees, but has chosen for the present to offer courses leading to the bachelor degree only. The grade of work is that of the first American colleges, and the examinations and degrees are especially guarded. The Rev. Dr. W. R. Harper, the distinguished Hebraist of Yale Univ., now pres. of the University of Chicago, is principal of the Chautauqua College of Liberal Arts. Having taken the full curricula of the resident colleges, a sufficient number of lessons is printed on each course of study. These are written on a strictly inductive method and adapted to the need of non-resident students. These printed lessons contain all directions, suggestions, and questions needed to enable the student to master the work assigned. The exercises, theses, and notes asked for in the lessons are sent to the professor, who corrects them, adds suggestions, and returns them to the student. The teacher and student are thus in constant communication. The students do not work in classes but individually, and provision is thus made for a student to work fast or slowly, as he may need. The leading ideas underlying the work are these: (1) The full college idea in its range and thoroughness; (2) the desirability of enabling those who cannot attend the resident colleges to receive college training and honors at their homes. Only such students are taken; (3) the extending of the college work and influence from the older college centres into the homes of the people. It thus uses the ideas that underlie the university-extension movement in England; (4) the nature of the work determines the character of the students. They must be mature and earnest. These qualities overcome the disadvantages of non-residence; (5) the inductive methods of study and teaching are especially adapted to correspondence. Chautauqua College holds a session every summer, at Chautauqua, N Y. Here the students are trained in classes, in nearly all the subjects of a college course. The headquarters are at Chautauqua, N. Y. Bishop J. H. Vincent is chancellor, and W. M. Day, first vice-president. The annual fee is 50 cents. The Chautauqua School of Theology is a department of the university.

CHAUTAUQUA LAKE, *sha-taw'kwa*: in Chautauqua co., N. Y.: the name means 'a foggy place.' It is 18 m. long, and one to three m. wide; 730 ft. above Lake Erie, and 1,290 ft. above the Atlantic. Its waters flow through Conewango creek into the Alleghany river. Steamboats ply from the outlet to Mayville, at the n.w. end.

CHAUVEAU—CHAUVELIN.

CHAUVEAU, *shō-vō'*, PIERRE JOSEPH OLIVIER. b. 1820, May 30, at Quebec, Canada: statesman. He received a collegiate education, was admitted to the bar 1841, entered parliament 1844, and became solicitor-gen. for Lower Canada 1851, provincial sec. and member of the executive council 1853, and supt. of education for the province of Quebec 1855. He was premier of Quebec 1867-73, pres. of the harbor commission 1876, sheriff of Montreal 1877, appointed prof. of Roman law in Laval Univ. 1878, and afterward elected dean. In the course of his official life he examined the school and college systems of the leading European countries, became a member and pres. of the Royal Soc. of Canada, and other learned organizations, established normal schools and several educational periodicals in the English and French languages, and published a number of poems and prose works, including *Voyage of the Prince of Wales to America* (1861), and *Public Instruction in Canada* (1876). His last work, *François Xavier Garneau, his Life and Works*, was published 1883.

CHAUVEAU - LAGARDE, *shō-vō'lā-gārd'*, CLAUDE FRANÇOIS: 1760-1841; b. Chartres, France: lawyer. Despite the personal peril of the undertaking, he made a brilliant defense of Miranda and Bressot, and gained such distinction thereby that he was appointed chief counsel for Charlotte Corday, and chosen leading counsel by Marie Antoinette for her trial, 1793. After his unsuccessful plea in behalf of the queen, he was imprisoned nearly a year. He became advocate of the council of state under Napoleon. His published works include a *Narrative of the Trial of Marie Antoinette* (1816).

CHAUVELIN, *shōv-lāng'*, FRANÇOIS BERNARD DE: 1766-1832; b. France: statesman. He united with the popular party 1789, was appointed ambassador to England, and accompanied Talleyrand, the unofficial manager of the negotiations, 1792. On the announcement in England of the death of Louis XVI., C. was ordered to leave the country within a week. He returned to France, became a member of the *tribunat* and prefect of Lys under Bonaparte, and was given the title of count for his political services. He was a prominent member of the chamber of deputies for 10 years after the restoration 1816, and some time speaker, siding with the liberals.

CHAUVENET—CHAYENPUR.

CHAUVENET, *shō-vēh-nā'*, WILLIAM, LL.D.: 1819, May 24—1870, Dec. 13; b. Milford, Penn.: mathematician. He graduated at Yale 1840, took observations at Girard College as asst. to A. D. Bache, was made prof. of math. in the navy 1841, and placed at the United States Naval Asylum at Philadelphia 1842. He actively helped to establish the Naval Acad. at Annapolis, and was prof. of math. and astron. there 1845–59. He declined the chair of math. at Yale 1855 and that of astron. 1859, but accepted, 1859, that of math. in the Washington Univ. at St. Louis, where he became chancellor 1862. He resigned from ill health 1869, and died at St. Paul, Minn. His *Trigonometry* (1850), *Astronomy* (1863), and *Geometry* (1870), are widely used as text-books. He also published *Binomial Theory and Logarithms* (1843), and contributed to the *Proceedings* of the Amer. Assoc. and to several scientific periodicals.

CHAUVINISM, n. *shōv'in-izm* [after *Chauvin*, a character in a French play of the Restoration who was always boasting of his exploits at the battle of Jena, and vowing that he would one day avenge Waterloo]: the temper which seeks to quarrel with one's neighbor in the spirit of a braggart; blustering, quarrelsome braggadocio. **CHAUVINIST**, n. *shōv'in-ist*, a quarrelsome politician, seeking to avenge some national disaster or defeat, or to irritate another power; a ridiculous patriot.

CHAUX DE FONDS, *shō-de-fōng'*: town of Switzerland, canton of Neuchâtel, 9 m. n.w. of Neuchâtel. It is in a bleak valley, 3,070 ft. above the sea, and is scattered over a large area, almost every cottage being surrounded by a garden or croft. It is one of the chief seats of the manufacture of clocks and watches in the canton. The mechanics work chiefly at home, each devoting himself to a particular portion of machinery. This industry employs 12,000 hands. Pop. (1880) 22,456; (1901) 36,388.

CHAVENDER, or **CHEVEN**: see **CHUB**.

CHAVICA, n. *shāv-ī-kū* [a native name]: the native name for the long-pepper and betel-pepper plants, which are extensively used as intoxicants in the East. **CHAVICINE**, n. *shāv-ī-sīn*, one of the two active bases or alkaloids found in these plants, having a very fiery taste.

CHAW, v. *chaw*, **CHAWEN**, pp. *chawn*, or **CHAWED**, pp. *chawd*: OE. spellings of **CHEW**, and **CHEWN**, or **CHEWED**; CHAW is also an old spelling of JAW. **CHAWED UP** [an Americanism]: gone to the bad; good for nothing, as a chewed quid of tobacco.

CHAWDRON, n. *chaw'drōn*, or **CHAULDRON**, n. *chawl'-drōn* [F. *chaudron*, a kettle: Ger. *kaldaunen*, entrails]: in OE., part of the entrails of an animal; the paunch.

CHAWS, n. plu. *chawz*: an old spelling of **JAWS**.

CHAYENPUR, *chī-en-pōr'*: fortified town of Nepaul, in the n. of India, about 120 m. to the e. of Khatmandu, cap. of the state; lat. 27° 20' n., and long. 87° 3' e. C. is the chief town of a dist. which yields rice, wheat, cotton, ghee or butter, timber, spices, sugar, tobacco, and pearls.

CHAY ROOT—CHEAT.

CHAY ROOT, *chā*, or CHOYA, *choy'a*, or SAYAN, *sā'an* (*Oldenlandia umbellata*): perennial herbaceous plant of the nat. ord. *Cinchonaceæ*, said to be native both of India and of Mexico. It is cultivated on the coast of Coromandel for its long, orange-colored roots, the bark of which affords a beautiful red dye. The quality of the bark is said to be improved by keeping it for some years. It is the coloring matter obtained from C. R. which is used to paint the red figures on chintz. C. R. is the Indian madder, and in it some tribes in Ceylon formerly paid their tribute.

CHEADLE, *chē'dl*: small, neat market-town of England, in the moorland dist. of the n. part of the country of Stafford, 14 m. n.n.e. of the town of Stafford, three m. from the Froghall station on the Churnet Valley branch of the N. Staffordshire railway, four m. from the Blyth Bridge station on the main line from Derby to Crewe. The town is in a pleasant vale, surrounded by hills mostly planted with fir and other trees. The parish church (St. Giles) was a very ancient structure, but was rebuilt 1837–38. A magnificent Rom. Cath. church, erected at the sole expense of John, Earl of Shrewsbury, was opened 1846. There are several dissenting chapels, various schools, a mechanics' institute, a large tape manufactory, and also one for silk. There are copper and brass works a short distance from the town, and coal and limestone abound in the vicinity. Pop. (1831) 4,724.

CHEAP, a. *chēp* [AS. *ceap*, cattle, price: Goth. *kaupon*, to deal: Icel. *kaupa*, to buy: Dut. *koopen*; Ger. *kaufen*, to buy]: low in price for the quality; not dear as prices go; common or little in value: N. in *OE.*, a purchase; a bargain. CHEAP'LY, ad. *-lī*, at a very moderate or low rate. CHEAP'NESS, n. lowness in price considering the real value. CHEAPEN, v. *chēp'n*, to lessen in value; to purchase after beating down the price. CHEAPENING, imp. *chēp'nīng*: ADJ. endeavoring by higgling to lower the price; becoming cheaper. CHEAP'ENED, pp. *-ēnd*. CHEAPENER, n. *chēp'nēr*, one who. DOG-CHEAP, a modern translation or accommodation of the older common phrase, GOOD-CHEAP, both signifying, an ‘excellent bargain;’ at a very low price.

CHEAP-JACK, n. *chēp-jāk* [AS. *ceapjan*, to buy and sell; *cheap* = *chap*, a merchant]: a peddler; an itinerant dealer in a larger way going about country towns and fairs, disposing of his goods—so named not because he is *cheap*, but because he is a *chap-jack*, *chapman*, or travelling merchant; a common and familiar corruption of *chapman* (see CHAP 3). Note.—CHEAP-JACKS are now known by their kind of auction-sales, offering an article at a price, and then adding article after article as an inducement for some one to give the price named for the original article.

CHEAT, v. *chēt* [see *escheat*, of which it is a corruption—the *escheaters* or *cheaters* were officers appointed to look after the king's escheats, giving many opportunities of oppression—hence *cheater* came to signify a fraudulent person]: to deceive and defraud; to impose on; to trick: N. a fraud committed by deception; a trick of dishonesty; an

CHEATING—CHECK.

imposition or **imposture**; one who cheats. **CHEAT'ING**, imp.: **ADJ.** fraudulent; tricky: **N.** fraud; deception. **CHEAT'RY**, n. -*rī*. **CHEAT'ED**, pp. **CHEAT'ER**, n. one who. **CHEAT'INGLY**, ad. -*lī*. **Note**.—Wedgwood says that *cheat* in the old canting language of beggars and rogues meant a thing of any kind; *cheater*, a canter, a rogue; *to cheat*, to act as a rogue. — **SYN.** of ‘*cheat*, v.’: to defraud; cozen; gull; chouse; bamboozle; fool; outwit; beguile; circumvent;—of ‘*cheat*, n.’: deception; delusion; fraud; artifice; stratagem; finesse; guile; imposition; deceit.

CHEAT'ING, in Law: an offence short of felony and falling under the head of misdemeanors. In American law it is defined as ‘deceitful practices in defrauding or endeavoring to defraud another of his known right, by some wilful device contrary to the plain rules of common honesty.’ Bouvier says: ‘In order to constitute a cheat or indictable fraud, there must be a prejudice received, or such injury must affect the public welfare, or have a tendency to do so.’ In common law, the fraud must be of a kind which could not be guarded against by ordinary prudence. The instrument of the cheat must not be mere words, but a sign or token of some kind, as a false brand on articles sold, false weights and measures, or loaded dice or marked cards in games of chance. In statute law C. is known as ‘false pretenses,’ i.e., false representations with intent to defraud, by words or deeds concerning facts or events, past or present. The legislation of the various states differs much in details on this subject: see **WEIGHTS AND MEASURES**: **FALSE PRETENSES**: **CHARACTER TO SERVANT**.

CHEAT RIVER, *chēt*: in W. Va.; formed by the confluence in Tucker co. of Shaver’s, Dry, Glade, and Laurel Forks, which rise among the Alleghanies. It flows n. and n.w. through Preston and Monongalia counties, between hills rich in coal and iron, and enters the Monongahela in Fayette co., Penn., just n. of the W. Va. line. The main stream is about 75 m. long, and varies greatly and rapidly in its volume of water; hence the name. The finest scenery of the Baltimore and Ohio railroad is along its banks.

CHECK, n. *chēk* [F. *échec*; OF. *escheck*, a repulse, a rebuke—a metaphor taken from the game of chess, when a player is stopped by receiving *check* to his king: Pers. *shāh*, a king]: stop; restraint; continued restraint; curb; that which stops or controls; a term in chess; a pass, ticket, or token; variegated cloth woven in squares of different colors like a chess-board: V. to stop; to restrain; to moderate; to chide or reprove; to control; to make a move in chess threatening the king; to compare and examine papers or accounts to ascertain their accuracy—[to *check an account*, in the sense of ascertaining its correctness, is derived from the court of exchequer, where accounts were compared and corrected by means of counters upon a checked cloth, or by indented or checked tallies]. **CHECK'ING**, imp. **CHECKED**, pp. *chēkt*. **CHECK'ER**, n. -*ér*, one who, or that which. **CHECK'LESS**, a. uncontrollable; violent. **CHECK'MATE**, n.

CHECK—CHECKY.

māt [Pers. *sháh-mát*, king dead: Ar. *escheikh imát*, the sheik dies]: a movement that finishes a game of chess: V. to hinder from moving and so to finish; to defeat; to overthrow. CHECK' MATING, imp. CHECK' MATED, pp. CHECK-BOOK, a book containing blank checks upon a bank. CHECK-ROLL, a list of servants in a household. CHECK-STRING, a cord by which the occupant of a carriage may arrest the attention of the driver.—SYN. of 'check, v.': to restrain; control; curb; hinder; repress; moderate; rebuke; reprove; chide; mark; pause.

CHECK, in Finance: a money order drawn on a bank or banker, or person holding similar position. It differs from an ordinary bill of exchange in being usually payable on demand without days of grace. If not presented within a reasonable time, the holder cannot claim against the drawer should the banker fail; should the drawer die meantime, the C. is not payable. In case of forgery or of a C. raised to a higher amount than it was drawn for, the banker bears the risk, except as the fraud might be facilitated by carelessness in drawing. Of late years checks are usually drawn not to bearer but to order, and the holder's indorsement constitutes a receipt and secures the bank. When the holder is unknown to the banker, he is required to procure identification. To draw a C. with knowledge that one has no funds is a fraud, and when goods are thus procured the sale can be rescinded. English law requires the C. to bear a penny stamp: United States law required a two cent stamp till 1883. A 'crossed check' (Eng., 'cheque') has two transverse lines drawn across it, which make it payable only through a banker. If 'specially crossed,' it bears a particular banker's name between the lines, and is payable only by him. The holder may cross a check generally or specially. In Great Britain obliteration of the crossing, like any alteration of a C., except as provided for by the Crossed Checks Act of 1876, is a felony.

CHECKER, or CHEQUER, n. *chék'ér* [OF. *eschequier*, a chess-board, an exchequer—from *eschec*, a check at chess]: in *OE.*, to variegate by cross-lines; to form into squares like a chess-board by lines or stripes; to diversify; to vary or mix with different qualities, scenes, or events. CHECK-ERING, imp. CHECK ERED, pp. -*éréd*: ADJ. marked out or varied with squares or stripes of different colors, as *checkered* cloth; crossed with good and bad fortune in the career of life. CHECKERS, or CHEQUERS, n. plu. in *OE.*, device of alternate white and black squares used as a tavern-sign; a game of draughts, so called because played on a board divided into squares (see DRAUGHTS). CHECK'ER-WORK, work having a pattern of squares varied alternately in colors or materials. CHECKY, n. *chék'i*, in *her.*, a shield marked into squares.

CHECKERBERRY, or WINTERGREEN: see GAULTHERIA.

CHECKY, *chék'i* [Fr. *échiqueté*]: in *her.*, denoting that the field or any charge is composed of small squares of different tinctures, generally metal and color.

CHEDDAR—CHEER.

CHEDDAR, n. *chĕd'dĕr*: a kind of cheese, so named as having been first manufactured at *Cheddar*, in England.

CHEDDAR, *chĕd'dĕr*: village in Somersetshire, on the s. side of the Mendip Hills, two m. s.e. of Axbridge, with a level country to the s. It lies at the entrance of a deep rocky gorge nearly a mile long, which is overhung by stupendous mural limestone precipices, containing caverns—one being 300 ft. long—filled with fantastic stalactites and stalagmites. The celebrated C. cheeses are produced on the rich grass farms around. The church is supposed to have been built about 1400, and has a sculptured stone pulpit. Pop. of parish about 2,500.

CEDUBA, *che-dō'bā*: island off Aracan, in the Bay of Bengal, stretching from lat. $18^{\circ} 40'$ to $18^{\circ} 56'$ n., and from long. $93^{\circ} 31'$ to $93^{\circ} 50'$ e.; about 240 sq. m.. With the adjacent mainland, it was ceded to the British at the close of the first Burmese war. The soil is fertile, yielding rice, tobacco, sugar, indigo, cotton, hemp, and large quantities of a vegetable oil, fitted equally for burning and for varnishing. The principal mineral is petroleum. The coast presents earthy cones, which emit mud and gas, and about 100 years ago a severe earthquake is believed to have extended the limits of the island. Pop. about 25,000.

CHEEK, n. *chēk* [AS. *ceac*, the cheek, the jaw: Dut. *kaecke*; Sw. *kek*, the jaw]: the side of the face below either eye; in *mil.*, the side of an embrasure; in *slang*, bold, unblushing impudence. **CHEEKY**, a. *chē'ki*, in *slang*, possessing bold, brazen impudence; forward and impudent. **CHEEK-BY-JOWL** [AS. *geagl*, a jaw, a jowl]: near; close; side-by-side. **CHEEK-BONE**, the prominent bone of the cheek; the malar bone. **CHEEKS**, n. plu. two upright, equal, and similar parts of any piece of timber-work; the two solid parts upon the sides of a mortise; the projection on each side of a mast.

CHEEP, v. *chēp* [an imitative word: Scot. *cheiper*, a cricket]: to make a shrill noise like a young chicken. **CHEEP'ING**. imp. **CHEEPED**, pp. *chēpt*.

CHEER, v. *chēr* [OF. *chiere*; It. *cera*, the countenance; F. *chère*, the face, favor, entertainment—from mid. L. *cara*, face, countenance: comp. Gael. *cairdeas*, friendliness; *cairdich*, to make friendly]: to make pleasant and friendly; to comfort; to gladden; to infuse life and spirit into; to encourage; to become gladsome; to receive with shouts of joy; to applaud: N. face or countenance, as expressing a greater or less degree of cheerfulness; that which brings joy and gladness; courage; spirits; a joyful shout; applause; mirth; provisions for a feast. **CHEER'ING**, imp.: ADJ. animating; encouraging: N. utterance of shouts of joy; loud acclamations. **CHEERED**, pp. *chērd*. **CHEER'-INGLY**, ad. *-lī*. **CHEER'ILY**, ad. *-i-lī*, with spirit; in good spirits. **CHEERFUL**, a. *chēr'fūl*, lively; in good spirits; full of life. **CHEER'FULLY**, ad. *-lī*. **CHEER'FULNESS**, n. the state of being in good spirits; liveliness; gaiety. **CHEERLESS**, a. *chēr'lēs*, without cheer; cold; gloomy; dispiriting. **CHEER'LESSLY**, ad. *-lī*. **CHEER'LESSNESS**, n. **CHEER'ER**,

CHEESE.

n. one who. **CHEER'Y**, a. -*ī*, gay; sprightly. **CHEER UP**, to become cheerful; to enliven: INT. have greater courage and hopefulness. — **SYN.** of ‘cheer, v.’: to animate; encourage; enliven; exhilarate; comfort; console; solace; gladden; inspirit; refresh;—of ‘cheerful’: merry; sprightly; gay; mirthful; jovial; lively; gleeful; vivacious; sportive; animated; joyful; blithe; lightsome; gladsome; airy; jolly.

CHEESE, n. *chēz* [AS. *cēse*, curdled milk: Gael. *caise*; W. *caws*, cheese: L. *casēūs*, cheese: Fin. *kasa*, a heap]: the curd of milk pressed into a mass of various shapes and sizes, and suffered to dry. **CHEESY**, a. *chē'zi*, having the taste of form of cheese. **CHEESE-CAKE**, n. a sweet cake made with sugar, butter, and soft curd; any delicately flavored preparation of custard. **CHEESE-HOPPERS**, the larvæ or maggots of a fly found in decayed cheese. **CHEESE-MITE**, a very minute insect found plentifully in old cheese. **CHEESE-PRESS**, and **CHEESE-VAT**, the one for pressing and the other for holding the curd to be formed into a cheese; the old method of pressing was the mere piling of weights on the cheese vat, or sometimes a screw was used; but there are now numerous ingenious and convenient forms of cheese-press, generally depending on the action of a lever. **CHEESE-MONGER**, n. *-mūng'ger* [AS. *mangere*, a trader]: one who deals in or sells cheese. **CHEESE-PARING**, the outer rind or worthless paring of skin of the cheese, the preservation for use of which was considered carrying economy to excess.

CHEESE, *chēz*: common form in which the caseine (q.v.) of milk is used in a separate state as an article of food. In new milk, the C. is present in a condition soluble in water, and is generally separated therefrom in a coagulated or clotted form, on the addition of a little rennet (q.v.). In the preparation of C. the milk is gently heated to a temperature of 110°–112° F., and placed in a large wooden tub, where the rennet is added, and the operation of *earning* goes on. In about half an hour the curd is sufficiently formed. The liquid whey being pressed out, the curd is chopped into small pieces of the size of a walnut by a knife, called a curd cutter, salt is added, and the fragments of curd introduced into a cloth placed in a cheese-vat or ches-sart, which is a wooden tub of varying size and shape, perforated at the sides and bottom. The whole is then put under a cheese-press (q.v.), and subjected to great pressure, which consolidates the curd or caseine, and at the same time squeezes out the remaining portions of whey. After two or three hours, the half-formed C. is turned and re-turned, each time being subjected to renewed pressure, till in about two days it is sufficiently compacted. It is then removed from the cheese-vat and placed on a shelf in a dry, airy room, where, being repeatedly turned, it gradually dries, and gets aged or seasoned sufficiently for market in about six months.

There are many varieties of C., which owe their difference partly to the food of the cows, but in greater part to differences in the mode of treating the milk. **Skimmed-milk C.** is prepared from milk from which the

CHEESE.

cream has been removed, and a rich color is communicated by adding a little arnotto (q.v.) to the milk before coagulation. *Sweet-milk C.* is procured in a similar manner from the whole milk, and contains much of the butter with the caseine. *Stilton C.* is made in Leicestershire, England, by adding the evening's milk to the new milk of the next morning; and as there is always more trouble in expelling the whey from curd containing butter, there is a difficulty in preparing this variety of C., from its liability to fermentation and bursting. *Cheddar C.* is made in Somersetshire, England, from the whole milk, and the whey is several times skimmed off, heated, and added to the curd to scald it. *Cheshire* and *Double Gloucester* are made from the whole milk; *Single Gloucester*, from half new milk and half skimmed milk. *Gouda C.* is prepared in Holland from skimmed milk curdled by muriatic acid instead of rennet, and for this reason it is not infested with mites. Holland exports annually about thirty millions of pounds of cheese, the greater portion going to England. *Suffolk C.* is made from skimmed milk. *Parmesan C.*, obtained from Parma in Italy, also is made from skimmed milk, and owes its fine, rich flavor to the superior herbage on the banks of the river Po. The cows are kept under shelter nearly all the year round, and fed in summer with cut grass. Some of the cheeses are so large as to contain 180 pounds; and the milk of 100 cows is required to produce one of this size. *Swiss C.* is flavored with herbs, and especially that of Gruyère, which is very pleasant to the taste. Gruyère cheeses weigh 40–60 lbs. each, and are exported in large quantities. *Cream C.* is prepared from cream curd which has been placed in a cloth, and allowed to drain without the assistance of pressure. In making C., minium or red-lead has occasionally been employed as a cheap coloring substance, and cases of poisoning have resulted therefrom. Carrots, saffron, and marigold flowers also have been used for imparting color as well as flavor.

Dunlop C., though nowhere so well made as in the parish of Dunlop, in Ayrshire, is now manufactured in the dairy districts of Scotland generally. The cheeses are of various sizes—from a quarter to a half a hundredweight. Sometimes the entire milk is used, but generally the cream is removed from the evening's milking. Much of what is sold as Cheddar (q.v.) cheese is really made in Scotland. The annual Kilmarnock 'cheese show' is one of the largest in the world, the value of the cheese exhibited being often more than £20,000.

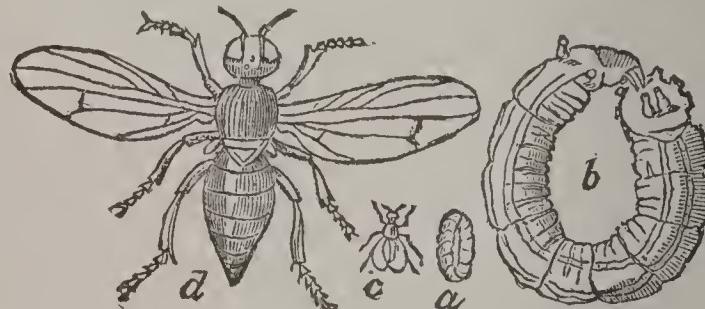
When sufficiently dry for use, C. still retains 35–44 per cent water, and besides the caseine contains a greater or less proportion of oil or fat and saline matter—the latter mainly consisting of common salt, originally present in the milk, and added during the manufacture of the cheese. As an article of diet, C. is highly nutritious; but from its costive properties, it is mainly used as a condiment in small quantity after an ordinary meal, and is then serviceable in giving an impetus to the process of digestion. To serve the purpose of a digester, C. must be old and partially decayed

CHEESE-HOPPER—CHEETAH.

or moldy. It then acts as leaven, and causes chemical changes gradually to commence among the particles of the food which has previously been eaten, and thus facilitates the dissolution, which necessarily precedes digestion.

Cheese is produced in each of the United States. In 1880 the total product was 27,272,489 pounds, of which N. Y. was credited with the largest quantity, 8,362,590 pounds, and Del. the least, 1,712. After N. Y. came Cal., Wis., Ohio, Vt., Me., Penn., Iowa, Ill., Mass., Conn., and Minn., each yielding from 826,195 to 2,566,618 pounds. In that year the total amount exported was valued at \$12,171,720. During the fiscal year ending 1887, June 30, the amount of C. exported aggregated in pounds 81,255,994 and value \$7,594,633. It was noticeable that the largest shipment to a single country was to England, 67,373,266 pounds, Canada taking the second largest quantity, and Scotland the third. Of late years farm dairies have been largely superseded by factories to which milk is taken from surrounding districts; and by the employment of greater and more uniform skill and experience a better quality is obtained. The census of 1900 included cheese with butter, and condensed milk, the combined output of which was valued at \$131,183,388. During the same year there were exported 54,059,049 pounds of cheese, valued at \$5,549,254.

CHEESE-HOPPER: the larva of *Piophila casei* or *Tyrophaga casei*, a small dipterous (two-winged) fly, of the large family *Muscidae*, the same to which the house-fly, blow-fly, etc., belong. The perfect insect is about a line and a half in length, mostly of a shining black color; antennæ, forehead, and some parts of the legs rufous. It is a pest of dairies and store-closets, laying its eggs in cracks or crevices of cheese, the destined food of its larvæ. To preserve cheeses from this pest, it is of advantage to brush or rub them frequently, and to remove all cracked or injured



Cheese-hopper:

a, larva, natural size; b, larva, magnified, preparing to spring;
c, perfect insect, natural size; d, magnified.

cheeses from large stores, besides keeping them dry and in well-aired places. The same rules are applicable to their preservation from the other insect larvæ by which they are sometimes infested, of which the most notable are those of the bacon beetle (see DERMESTES), and of another species of dipterous fly, *Musca corvina*.

CHEETAH, chē'tā, or **CHITTAH**, chītā, or **HUNTING LEOPARD** (*Felis jubata*, or *Cynailurus jubatus*): animal of

CHEETAH.

the feline family, but differing from all the rest of that family in its longer and narrower feet and less retractile claws, which are also more blunt and less curved. With these peculiarities are associated a greater length of limbs than is usual in feline animals, adapting it to take its prey by running rather than by leaping, and an intelligent and tractable disposition, constituting an additional point of resemblance to dogs; with which, however, the form of the head and the internal anatomy have nothing in common, but are entirely feline. The C. is in size about equal to a leopard, but the body and limbs are longer. It is very widely distributed, being found in Senegal, s. Africa, Persia, India, Sumatra, etc. Its geographic range extends as far n. as the Caspian Sea, and the steppes of the Kirghiz Tartars. The Asiatic species described as *Felis venatica* appears to have been fully identified with *F. jubata*; and differences in the quantity of mane, and other unimportant particulars, may probably sometimes have resulted from domestication; for this animal has been long domesticated and employed in the chase, both in Persia, where it is called *Youze*, and in India. Deer and antelopes are the game principally hunted with the C., and packs are kept by Indian princes. The head of the C. is kept covered with a leather-hood till the game is discovered, when the hunting party advancing cautiously to within 200 yards of it, the hood is taken off, and the C. stealthily creeps toward the herd, taking advantage of every bush and inequality for concealment, till, on their showing alarm, he is among them at a few bounds, and striking down his victim with a blow of his paw, instantly tears open his throat, and begins to suck the blood. It is then somewhat difficult to withdraw him from his prey, which is generally done by offering him meat. If unsuccessful the C. does not attempt to follow the herd by running—nor does this animal seem to possess the power of maintaining speed through a lengthened chase—but slowly, and as if ashamed, creeps back to the hunters. In a domesticated state, it is extremely fond of attention, and seems to repay kindness with affection.

CHEEVER—CHEIRACANTHUS.

CHEEVER, *chē'vr*, EZEKIEL: 1615, Jan. 25—1708, Aug. 21; b. London. He emigrated 1637, was one of the three founders of New Haven, 1638, taught school there 1638–50 at Ipswich, Mass., 1650–61, and at Charlestown 1661–70. Invited by the authorities of Boston to take charge of the Latin School, 1670, he retained that post, with unimpaired faculties, till his death at the age of 93. His *Accidence*, written at New Haven, went through 20 editions, and was long the chief guide to Latin in New England. He published also *Scripture Prophecies Explained, in three Short Essays*. Some poems by him, with his funeral sermon by Cotton Mather, were printed at Boston, 1828.

CHEF-D'ŒUVRE, n. *shēf-dō'vr* or *shā-* [F., chief of work]: a master-piece; a very fine work of art.

CHE-FOO, *chē-fō* (*Chi-fu*): Chinese treaty port, on the n. side of the peninsula of Shan-tung, province of Shan-tung; 30 m. e. of Tang-Chow-Foo. Since it was opened to foreign trade, it has become important; and there are a custom-house, British consulate, and a considerable foreign settlement. Imports are chiefly of iron, woolen, and cotton goods, and opium. The 'C. Convention,' which opened C. and two other ports to foreign commerce, was agreed to 1876.

CHEGOE, n. *chēg'ō* [of Peruvian origin: Sp. *chico*, small]: in tropical countries, a small insect that enters the skin of the feet in man; also written CHIGGER, *chig'gér*; CHIGOE, *chig'ō*; JIGGER, *jig'gér*; CHIGRE, *chig'ér*; and CHEGRE, *chēg'ér*.

CHEILOANGIOSCOPY, *kī-lō-ān-jī-ōs'ko-pī*: method of observing the circulation of the blood invented by Dr. C. Hüter of Germany. The patient's head is fixed in a frame to which are attached a microscope and a lamp. The lower lip is drawn out and fixed by clips on the stage of the microscope; on its inner surface a condenser throws a strong light, and the microscope with a low-power objective is brought to bear on the blood-vessels, which at first appear filled with a red injection. On focusing one small vessel, the blood stream can be seen in motion, with its red corpuscles as specks on the current; the flow of these in the capillaries is said to be very beautiful. The colorless corpuscles also appear here and there as white specks on the red stream. Other phenomena besides those of the circulation may be observed by this method, the primary use of which is to gain help in diagnosing disease by detecting anything abnormal concerning the blood. The phenomena of blood stagnation—its change from red to purple, accompanying the stoppage of its flow—may be witnessed by a slight pressure, or by touching the lip with ice, and for a longer time by re-agents, as glycerine or ammonia.

CHEIRACANTHUS, n. *kī'rū-kān'thūs* [Gr. *cheir*, the hand; *akan'tha*, a thorn]: a small fossil fish armed with defensive spines. CHEI'ROLE'PIS, n. *-rō-lē'pis* [Gr. *lepis*, a scale]: a fossil fish of the Old Red Sandstone, having lozenge-shaped ganoid scales, and a great development of its pectoral and ventral fins. CHEIROPTERA, n. plu. *kī-rāp'-*

CHEIRANTHUS—CHEKE.

tēr-ă [Gr. *pteron*, a wing]: the systematic name for bats and the bat kind (see BAT). CHEIROP'TER, n. one of the *cheiroptera*. CHEIROP'EROUS, a. -*üs*, pertaining to. CHEIRU'RUS, n. -*rō'rūs* [Gr. *oura*, a tail]: in *geol.*, a genus of Lower Silurian trilobites, so termed from their tail presenting four or five finger-like spines.

CHEIRAN'THUS: see WALLFLOWER.

CHEIROMANCY: see CHIROMANCY.

CHEIRO'MYS: see AYE-AYE.

CHEIRONECTES, *kī-rō-nēk'tēz*: genus of marsupial quadrupeds, differing from the opossums chiefly in having webbed feet and aquatic habits. *C. palmatus* or *C. Yapock*, sometimes called the Yapock opossum, or simply the Yapock, from the S. American river of that name, is common in many rivers of Brazil and Guiana. It has a soft wooly fur, the color of the upper parts of the body is gray with large transverse patches of black connected with a dorsal black line, the breast and belly white; the tail is long very thick at the base tapering to the tip, and, except at the base, covered with scales. The cheek-pouches are very large. Crustaceans are said to form the chief food of this animal, which is interesting as a sort of marsupial representative of the otter.

CHEIROTHERIUM, n. *kī-rō-thē'rī-ūm* [Gr. *cheir*, the hand; *thēriōn*, a wild beast—lit. hand-beast]: in *geol.* name formerly given to an animal known to science only by its hand-like foot-prints in certain sandstones of the Trias age. The remains of the animal having been found, and its structure made out, this name has given place to the more characteristic one of *Labyrinthodon* (q.v.)

CHEKE, *chēk*, SIR JOHN: 1514, June 16—1557, Sep.; b. Cambridge, England; notable as one of the revivers of classical literature in England during the 16th c. Entering the Univ. of Cambridge, he applied himself assiduously to the study of Latin and Greek, particularly the latter language, then much neglected in England. He labored earnestly to advance the study of the Greek language and literature; and when the first professorship of Greek was founded in Cambridge by King Henry VIII., about 1540, C. was appointed prof. A new mode of pronouncing Greek which he introduced was assailed by Bishop Gardiner, chancellor of the univ.; notwithstanding C.'s system prevailed. C. was for a time preceptor of the prince, afterward Edward VI., whose elevation to the throne secured him rank, wealth, and honor. But being a Protestant he was stripped of everything when Mary came to the throne, though other lands were given to him on his returning to the Rom. Cath. Church, which he did to escape burning, the only alternative offered him by Cardinal Pole. His recantation preyed on his mind so much, that he died in the course of the following year. He left several works in Latin, and a pamphlet in English; and among his MSS. was a translation of the Gospel by Matthew, exemplifying

CHE-KEANG—CHELONIA.

a plan for reforming the English language by eradicating all words save those derived from Saxon roots.

CHE-KEANG, *chē-ke-āng'*: one of the e. and maritime provinces of China, smallest of the eighteen; area 39,150 sq. m. Situated in the s. portion of the great plain, it has great fertility, and produces silk, tea, and rice in abundance. Its cap., Hang-chow (q.v.), an important and populous city, is the metropolis of the silk districts. ‘Above is Paradise,’ say the Chinese, ‘below are Soo-chow and Hang-chow.’ Both these places were taken by the Taeping rebels 1860. Ning-po (q.v.) is the principal port of the province. Pop. (Chinese census, 1882) 11,588,692.

CHELÆ, n. plu. *kē'lē* [Gr. *chēlē*, a claw]: applied particularly to the first pair, or largest claws or pincers of the crustaceans, etc. **CHELIF'EROUS**, a. *-lif'er-ūs* [L. *fero*, I bear]: having claws as a crab. **CHELIFORM**, a. *kē'lī-faūrm* [L. *forma*, a shape]: having the form of a claw. **CHELATE**, a. *kē'lāt*, having chelæ or two-cleft claws.

CHELICERÆ, *kē-līs'ēr-ē* [Gr. *kēlē*, a claw; *kēras*, a horn]: antennal claws, e.g. the prehensile claws of the scorpion; modified antennæ which, in some of the crustaceans, and in most of the arachnida, serve a purpose corresponding with that of the mandibles of insects in the cutting, tearing, or bruising of food. They move, however, up and down in a direction contrary to that of the mandibles of insects.

CHELIFER, *kē'lī-fēr*: genus of *Arachnida* (q.v.) of the order *Trachearia*, and of the family to which, from their resemblance to scorpions without tails, the name *Pseudoscorpions*, or false scorpions, has been given, the true scorpions belonging to the order *Pulmonaria*. The genus C. consists of minute species in which this resemblance is very strong. The palpi are elongated and armed with pincers. The species live under the loose bark of trees, in chinks of old furniture, etc. One species, *C. cancroides*, about a line and a half in length, is frequently to be seen in old books, herbaria, etc., and is called the *Book Scorpion*; it is said to be useful as feeding on the insects which are most destructive to books and collections in natural history.

CHELM, *kēlm* or *chēlm*, or **CHOLM**, *chōlm*: town of Russian Poland, govt. of the same name; 126 m. s.e. of Warsaw. It is the seat of a United Greek bishop, and has a theological seminary. The Poles were defeated here by the Russians, 1794, June 4. Pop. about 7,000.

CHELMSFORD, *chēmz'ford*: county town of Essex, England, near the centre of the county, at the confluence of the Chelmer and the Cann, 29 m. n.e. of London. The industry of C. is chiefly agricultural. The town is the seat of assizes and local courts, and has a grammar-school founded by Edward VI. On a small island in the Chelmer, there has long been a ludicrous mock-election of a member of parliament during the county elections. Pop. (1871) 9,380; (1881) 10,093; (1891) 11,008.

CHELONIA, *ke-lō'ni-a*: order of reptiles, corresponding in extent with the genus *Testudo* of Linnæus, and of which

CHELONIA.

the most obvious distinguishing character is the inclosure of the whole body in a protective covering connected with the skeleton, so that only the head, the tail, and the limbs are protruded; the limbs, four in number, all formed on the same plan, are used by some as feet for walking on dry ground, by others as paddles for swimming. The bony covering consists of two principal parts called the *carapace* and the *plastron*; the carapace serving as a buckler for the upper parts and the plastron for the upper parts of the body. The carapace is formed from the ribs, of which there are eight pair, and from the annular parts of the dorsal vertebræ, expanded into plates, which are joined to each other by dentelated sutures, so that the whole acquires great firmness, and the dorsal vertebræ are rendered immovable. The plastron is formed of pieces which represent the sternum or breast-bone, and which are ordinarily nine in number. So compact and strong is the case of some of the tortoises that it will bear immense pressure without injury the arched form of the carapace adding to its strength, while the creature, destitute of other means of defense, and incapable of flight, finds safety, at least in its mature state, from all enemies but man, by drawing its head, tail, and limbs within the protecting case, which in some, called box-tortoises, has certain plates movable, so as more completely to inclose them. The turtles and other aquatic chelonians cannot thus withdraw their head, tail, and limbs from danger, but the greater activity of their movements compensates for this.

The firmly-fixed ribs not admitting of the movements by which respiration ordinarily takes place in other vertebrate animals, the C. gulp down air, which they inhale entirely through the nostrils; first filling the cavity of the mouth by elevating the hyoid bone, and then, by depressing it, forcing the air into the lungs, while the inner aperture of the nostrils is closed by the tongue. In other respects, as to aeration and circulation of blood, they resemble other reptiles.

The jaws are not furnished with teeth, but act in a manner more resembling that of the mandibles of birds, being, like them, hard, sharp, and horny. The food of the C. is various. Some of them, among which are all the land-tortoises, subsist exclusively on vegetable food; some of the aquatic C. pursue and eat other aquatic animals.

All the C. are strictly oviparous. Their eggs are hatched by the heat of the sun alone; they lay a great number at a time, which are covered with a calcareous shell, like those of birds. The eggs of fresh-water tortoises are in some places a lucrative article of commerce, from the quantity of oil obtained from them.

The C. are found only in the warmer parts of the world, but their numbers in some places are astonishingly great. A few species occur in the southern parts of Europe, and a number of species are found in the temperate parts of N. America.

All the species are extremely tenacious of life; they are capable of extraordinary abstinence, and of living long after having sustained injuries which would have been

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immediately destructive to almost any other animal. They are remarkable also for longevity.

The flesh of some kinds of turtle is well known as an excellent article of food. The eggs of some are equally an esteemed delicacy. Tortoise-shell (q.v.) and the oil already mentioned are the only other valuable products of the order.

See the titles of the different genera and species: also REPTILES.

Fossil Chelonia.—Foot-tracks on the Triassic sandstone of Dumfriesshire were referred by their discoverer, Dr. Duncan, to tortoises. Similar tracks have been noticed in Devonian and Oolite strata. Their vagueness, however, does not indicate with certainty the animals which produced them. The first indisputable evidence of chelonian life occurs in the Upper Oolite, where the remains of several pond-tortoises and two or three turtles have been observed. In the newer deposits, they increase in number, so that between seventy and eighty species have been described from the Tertiary strata. In the Eocene deposits of the London Clay, at the mouth of the Thames, there occur the remains of more species of true turtles than are now known to exist in the whole world. Some of these fossil C. were of a size proportioned to their colossal companions; as, for instance, the gigantic land tortoise (*colossochelys*) of the Sewalik Hills, whose carapace was as much as 20 ft. in length.

CHELONIAN, a. *kē-lō'ni-ān* [Gr. *chelōnē*, the tortoise]: pertaining to the *Cheloniū* or tortoise and turtle tribe.

CHELSEA, *chēl'sē*: city of Suffolk co., Mass., n.e. of Charlestown, and n. of East Boston, from which it is separated by the Mystic river and by C. creek, an inlet of the sea. Originally a part of Boston, it was set off 1738, and incorporated as a city 1857. The oldest ferry in the United States runs from the foot of Winnisimmet St. to that of Hanover St., Boston, $1\frac{1}{2}$ m. The C. bridge, 3,300 ft. long, connects with Charlestown, and horse-cars go that way to Boston. The Eastern and Grand Junction railroads pass through C. Here are the U. S. Marine Hospital, a naval hospital connected with the navy-yard at Charlestown, a U. S. powder magazine, an academy of music, four banks, one daily and four weekly newspapers, a free library, 15 churches, a high-school, 3 grammar and 12 primary schools. The city is divided into four wards, governed by a mayor, eight aldermen, and 19 common-councilmen. The water-works, controlled by three commissioners, since 1867 receive supply from Mystic Lake, through Charlestown. Many residents of C. do business in Boston; but in 1900 the capital invested in manufactures was \$8,211,682, value of products, \$10,333,549, number of employees, 3,332. The principal industries were foundry and machine-shop products, curried leather, and cotton goods; after these came tobacco, rubber, linseed oil, woolens, brushes, mattresses, paper boxes, soap, etc. C. has grown steadily within the last half-century. Pop. (1830) 770,

CHELSEA—CHELSEA HOSPITAL.

(1840) 2,390; (1850) 6,701; (1860) 13,395; (1870)
18,547; (1880) 21,782; (1890) 27,909; (1900) 34,072.

CHELSEA : suburb of London, now an integral part of the metropolis, in Middlesex, on the left bank of the Thames, $4\frac{1}{2}$ m. w.s.w. of St. Paul's. The river is here crossed by a fine iron bridge. Many of the nobility and gentry, and persons distinguished in literature formerly resided at C., and some of its coffee-houses were much resorted to by pleasure parties in the 17th and 18th c. The house and grounds of the Earl of Ranelagh were a favorite resort as late as 1803; and Cremorne is still a place of popular amusement. C. has water-works to supply London, a chain-pier, and floor-cloth factories, besides a training-college for male, and another for female teachers, and the Cremorne House Gardens, now a place of public amusement. Pop. of parish (1901) 73,856.

CHELSEA HOSPITAL : an asylum in Chelsea, suburb of London, for disabled or superannuated soldiers. The building was commenced 1609 as a Prot. theological seminary, by Dr. Matthew Sutcliffe, dean of Exeter, and James I. gave it a charter, 1610, as *King James's College*. When Sutcliffe died, 1629, the building was less than half finished, and the students were only 15 in number. Shortly after this the scheme was abandoned and the building used for various purposes. It was then rebuilt (1682–90) by Sir Christopher Wren, and made into a hospital for disabled soldiers by Charles II. By a warrant issued 1684, one day's pay per year, and two in leap-years, was deducted from soldiers' pay for supporting Chelsea Hospital. This deduction has long ceased, the hospital being maintained by parliamentary grant. The hospital has accommodation for about 600 persons, besides officers. Attached are 40 acres of land, used as public gardens and exercise ground. It is governed by a board of commissioners, comprising *ex officio* the lord pres. of the council, the first lord of the treasury, and the secretaries of state; but the more immediate management is in the hands of about 120 persons, of whom 20 are military officers, 20 civil officers, and the rest subordinates.

The establishment is maintained for the *in-pensioners* of the British army, who in the army estimates for 1888–9 are set down at 550. These in-pensioners, besides board, lodging, clothing, washing, medical aid, etc., receive a small sum in money, varying from 5s. 3d. per week for a color-sergeant, down to 7d. per week for a private soldier. They are all dressed in uniform—red, with blue facings—and are treated as a garrison, in respect to guards, sentinels, etc., There is a certain degree of choice open to the men, as to whether they will be *in* or *out* pensioners. The out-pensioners, who are more than a hundredfold as numerous (87,703 in 1888) receive sums of money varying from 1 $\frac{1}{2}$ d. to 3s. 10d. per day for life, as a reward for past services. Vacancies in the hospital are filled up once a quarter, and every person admitted must give up his out-pension before he can become an *in*-pensioner. The cost of the hospital 1888–9 was estimated at £27,083 exclusive of *out*-pension charges. Doubts have frequently been ex-

CHELTONHAM—CHEMISE.

pressed as to the usefulness of this expenditure; it is exceptional in its character, and the arrangement to which it refers is not in much favor among the soldiery.

CHELTONHAM, *chĕlt'nūm*: town, parliamentary borough, and fashionable watering-place, in the county of Gloucester, eight m. n.e. of Gloucester; in a picturesque valley on the Chelt, a small stream which rises in the adjacent hills, and flows into the Severn. It is sheltered on the e. and s.e. by a semi-circle of the Cotswolds. It owes its celebrity and rapid increase to its mineral springs, of which there are several varieties. The chief street is upward of a mile long, right and left of which are spacious and elegant squares and crescents, and innumerable villas lately erected for the accommodation of the numerous visitors. Attached to the spas are handsome pump-rooms, with tasteful grounds, avenues, saloons, lodging-houses, and public promenades among the finest in England, besides many fine mansions in and around the town. It has ten churches and a number of dissenting chapels. Of late years, C. has become famous for its public schools, the oldest of which is its endowed grammar-school, capable of educating 300 scholars; but the largest, and now the most celebrated, is its proprietary college, for the sons of gentlemen, a noble institution, educating, upon an average, 600 pupils. There are also a ladies' college, a junior proprietary school, and a number of private scholastic establishments. There are public assembly-rooms in the town, which is also much resorted to in the winter for its hunting. It has two clubs, and several weekly newspapers. C. returns one member to parliament, and has been a municipal borough since 1876. It has no manufactures of any importance. C. was only a village in 1716, when the first spring was discovered. It gradually increased till 1788, when the benefit received by George III. from its waters suddenly made it a resort of fashion. Pop. (1871) 44,519; (1881) 50,842; (1891) 50,506.

CHEM'IC: name given to BLEACHING POWDER by those engaged in chemical works, often called *bleach* in this country.

CHEMICAL, a : see under CHEMISTRY. A CHEMICAL SYMBOL consists of the first letter of the Latin name of the element to be indicated, but when the same letter forms the initial of two or more, another letter in small character is added to distinguish between them, thus O for oxygen; C = carbon; Cl = chlorine; Ca = calcium; Fe = ferrum or iron; Ag = argentum or silver, and so on.

CHEMIN DES RONDES, *shĕ-mĕng' dā rōngd'* [F. *chemin*, a passage or road; *des*, of; *rondes*, the patrols]: in a fortification, a beam between the exterior slope and the escarp, a masonry wall being erected on the side of the latter, whose object is to enable the officers to go their rounds without crossing the ditch.

CHEMISE, n. *shĕ-mēz'* [F. *chemise*; Sp. *camisa*, a chemise—from mid. L. *camisiā* and *camīsa*, a linen inner garment]: an under garment worn by females; a shift; a wall lining any earthwork in order to support it. **CHEMISETTE**, n. *shĕm'i-zĕt'*, an under waistcoat for a female.

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CHEMISTRY, n. *kěm'is-tri* [Ar. *kimiā*, the occult art; It. *chimica*: F. *chimie*—from mid. L. *chimiā*, the secret art of procuring gold—formerly supposed to come from Gr. *chumos*, juice, hence the modern spelling]: the science that ascertains the nature and constituent parts of any body, investigates the laws that regulate the action of bodies on each other, and determines in what proportion their elements unite. **CHEM'ICAL**, a. -č'-kăl, pertaining to chemistry. **CHEM'ICALLY**, ad. -č'-lē. **CHEM'IST**, n. one skilled in chemistry. **CHEM'ICALS**, n. plu. -č'-kăls, substances used for producing chemical effects. **CHEMICAL TOYS**, mostly pyrotechnic; recommended as illustrating to the young the rudiments of chemistry but probably more dangerous than efficient for such use. ‘Pharaoh’s Serpents’ (see SULPHOCYANOGEN), are highly poisonous, and during combustion evolve dangerous vapors. *Larmes du Diable*, or ‘Crocodiles’ Tears,’ are formed of metallic sodium, burn with extreme violence if thrown into water, or even if moistened with water or heated, and scatter particles of caustic alkali, which may inflict serious burns. ‘Sunshine in Winter Evenings,’ ‘Fiery Swords,’ etc. are formed of magnesium, and, like the preceding, may cause serious burns. Pyroxylene, identical with the highly explosive gun-cotton, is the active agent in the various toys known as ‘Will-o’-the-wisp Paper,’ ‘Parlor Lightning,’ ‘Fireflies,’ etc. **ORGANIC CHEMISTRY**, that which treats of the substances which form the structure of animals or vegetables, and their products. **INORGANIC CHEMISTRY**, that which treats of the substances which form mineral bodies. **PRACTICAL OR APPLIED CHEMISTRY**, that which treats of the products of chemistry useful in the arts, and for economical purposes. **PURE CHEMISTRY**, that which treats of the elemental constitution of substances, and of the laws of combination.

CHEMISTRY. The science treating of the relations and combinations of atoms. The ultimate physical division of matter is the molecule, itself generally, and, perhaps, always composed of atoms. Matter can exist only in the molecular state, but when molecules react upon each other their constituent atoms may assume new relations; several molecules may coalesce, and from a single new one; two molecules may react and exchange constituent atoms, or a single molecule may split up and form several. These and other changes involving the atoms may take place, but the matter thus reacting always exists as a collection of molecules. Matter, as far as our theory goes, cannot exist in the atomic state. Chemistry takes cognizance of the changes that bodies undergo when influenced by affinity (q.v.). Changes that do not alter the nature and properties of substances—such as the falling of a body by gravity, or its expansion by heat—belong to physics or natural philosophy. In chemical changes, again, the properties of the substances are permanently altered. Thus, when a piece of iron is left exposed to damp air, it is after awhile converted into a reddish, brittle substance, owing to the union with it of the oxygen of the air. Chemistry, then, may be defined as that branch of natural science

PLATE 12.

Cheetah
Chester



Cheetah.



In the Rows, Chester.

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which considers (1.) The combination of two or more substances to form a third body, with properties unlike either of its components; and (2.) The separation from a compound substance of the more simple bodies present in it, each possessing distinct properties; and considering that the steps of the combination and decomposition of substances can never be correctly understood without an intimate knowledge of the properties of substances, it follows that the science of C. must take into notice likewise the description of all the simplest as well as the most complex bodies.

When the science of C. is considered as a whole, including the properties of all the elements or substances, and the combinations and changes which they can under all circumstances undergo, it is distinguished by the title of *Pure, Theoretical, or Philosophical C.* Particular departments of C., where the science is confined to the examination of special objects, receive distinctive names; as *Physical C.*, or *Chemical Physics*, which considers phenomena bordering on physics and C.; *Mineralogical C.*, which takes cognizance of the composition of minerals; *Physiological C.*, which includes the changes which food undergoes in its transit through the animal economy, and the transformations that take place in substances of organized beings generally; *Medical C.*, which considers the composition and compounding of medicines; *Agricultural C.*, which relates to the composition of soils and manures, the ingredients in plants, and the best modes of supplying the food that they require, etc. *Inorganic C.* takes cognizance of the metals and compounds generally not derived from hydrogen-carbon types, while *Organic C.* is best defined as treating of the hydrogen-carbon compounds, or (by a classification no longer recognized in science) of the substance of plants and animals.

C. ranks as one of the arts as well as one of the sciences, and the division of *Practical C.* comprehends the rules and processes which must be followed, and the mechanical means for prosecution of the art. Practical C. is subdivided into *Analytical C.* (q.v.), which is occupied with the separation of simple substances from more complex—as chlorine (Cl) and sodium (Na) from chloride of sodium or common salt (NaCl)—and with the estimation of the quantities of the several ingredients; and *Synthetical C.*, which has for its object the union of simpler bodies to form more complex—as hydrogen (H) and oxygen (O) to form water (H_2O). The art of *Assaying* (q.v.) is a department of analytical chemistry. *Applied C.* includes the art of manufacturing the various substances entering into commerce and domestic life, so far as chemical processes and application are required. It is subdivided into *Technical C.*, which relates to everything connected with the arts and manufactures; and *Pharmaceutical C.*, which takes cognizance of substances used in medicine.

History.—The Egyptians, of all nations of antiquity, appear to have had the greatest amount of chemical knowledge. They preserved dead bodies from decay (see MUMMY), fixed

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colors in silk by means of mordants, prepared many medicines and pigments, as also soap, beer, vinegar, metals and metallic alloys, common salt, vitriol, soda, sal-ammoniac, glass, enamel, tiles, and painted earthen-ware. The Chinese were very early acquainted with the processes for dyeing, and the preparation of metallic alloys, the fabrication of nitre, sulphur, gunpowder, borax, alum, porcelain, verdigris, paper, etc. From the Egyptians, the Greeks and Romans derived what chemical knowledge they possessed; but they added little or nothing; and at the migration of the northern tribes, and overthrow of the Roman empire, a stop was put for a time to the advancement of all science in Europe. The prosecution of chemical knowledge was taken up by the Arabs before the 8th c., and was carried on by them and by their European scholars, the alchemists: see ALCHEMY. The first germs of a real science of C. appear about the end of the 17th and beginning of the 18th c., in the speculations of Becher (q.v.) and the phlogistic theory of Stahl (q.v.). After this, C. rapidly advanced. In 1718, Geoffrey brought out the first table of *Affinities*; in 1732, Boerhaave published many original experiments on the chemical relations of heat and light; in 1724 Hales, and in 1756 Black, published researches on the air and aërisform bodies, showing that the carbonic acid evolved during fermentation, respiration, and by the action of acids on chalk, was different from atmospheric air. In 1754-59, Margraff added to the then known earths—lime and silica—two others, alumina and magnesia; he also extracted sugar from plants. In 1770, Priestly began to announce his discoveries of oxygen, ammoniacal, hydrochloric, and sulphurous acid gases, etc. In 1773-86, Scheele contributed chlorine, hydrofluoric, prussic, tartaric, and gallic acids; also baryta, phosphoric acid from bones, etc., and gave the first hints regarding a new doctrine of combustion. About the same time Bergman and Cavendish enlarged the knowledge of the gases. Lavoisier, between 1770 and '94, reorganised much of the then known C., and founded a system of C. which still remains as the framework of the science. Berthollet, 1787, contributed much to the doctrine of affinity, and made researches in chlorine, etc. Fourcroy and Vauquelin advanced organic C.; Klaproth gave many contributions to mineral C. Richter devoted himself to the doctrine of combining proportion, afterward perfected by Dalton: see ATOMIC THEORY. The discovery of galvanic electricity by Galvani, and its advancement by Volta, led Sir Humphry Davy, and others, to important researches in the metals and gases. Gay Lussac and Thenard advanced the knowledge of organic substances and the chemical relations of heat. Berzelius made laborious researches in mineral C., and gave an exactness to this department which is an astonishment to the chemists of the present day. He was also the author of the electro-chemical theory, which has been almost perfected by the labors of Faraday, De la Rive, Becquerel, etc. Organic C. has latterly advanced

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most rapidly under the researches of Liebig, Wohler, Mitscherlich, Mulder, Laurent, and others. See ATOM: ATOMIC THEORY: ATOMIC WEIGHTS: AFFINITY.

CHEMICAL NOMENCLATURE.—In early times, chemical substances were named according to the fanciful theories of alchemy (q.v.). Thus the name *flowers of sulphur* was applied to the sublimed sulphur, which grew or sprang like a flower from sulphur when heated; *spirit of salt*, to hydrochloric acid, the corrosive acid or spirit obtained from common salt; and a multitude of other names had a like fanciful origin. In 1787, Lavoisier founded a system of nomenclature still followed by chemists. At first, it was intended that the names of simple as well as compound substances should be regulated by system. Hence such terms as oxygen (from *oxus*, acid, and *gennao*, to produce) *the acid-producer*, given from the notion then held that no acid was without oxygen; and hydrogen [from *hydor*, water, and *gennao*], *the water-producer*, from the supposition that hydrogen had more to do with the formation of water than any other element. The advance of chemistry, however, has so completely changed the opinion of chemists regarding the simpler bodies, that such names are now found to mislead; and thereafter, though such as had been given on this system were retained, their meaning has been discarded, and the systematized nomenclature restricted to compound substances. A remnant of the system, however, still subsists in making the scientific names of most of the metals end in *um*. In the non-metallic elements, a close analogy exists between chlorine, bromine, iodine, and fluorine; and to indicate this, the common termination *ine* has been given; and for a similar reason, carbon, silicon, and boron, end in *on*. As a general rule, however, the chemical name of an elementary substance does not convey any scientific meaning, and must be regarded as a simple mark or designation, analogous to the names of persons, which give no notion regarding their moral character or physical development. The ancient and more common metals retain their popular titles, such as gold, silver, and copper; but the more recently discovered metals have names given which end in *um*. The symbol of an element is obtained from the abbreviation or first letter of its Latin name, as O for oxygen; Pb for lead (Lat. *plumbum*). When the names of two or more elements commence with the same letter, a smaller letter or satellite is attached to one or more of these; such as S for sulphur, Se for selenium, and Si for silicon. For a complete table of the symbols of the elementary substances, see ATOMIC WEIGHTS.

The name of a compound substance generally indicates the elements of which it is composed. Thus the name ferric oxide indicates that the red powder is made up of oxygen and iron; the name plumbic sulphide (galena) that it is composed of sulphur and lead. In both these cases the adjective is derived from the Latin name of the metal. This is often done; no absolute rule can be stated. In all similar combinations—

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Oxygen	forms	Oxides.
Chlorine	"	Chlorides.
Bromine	"	Bromides.
Iodine	"	Iodides.
Fluorine	"	Fluorides.
Nitrogen	"	Nitrides.
Carbon	"	Carbides or Carburets.
Sulphur	"	Sulphides or Sulphurets.
Selenium	"	Selenides or Seleniurets.
Phosphorous	"	Phosphides or Phosphurets.

When two elements combine with each other in more than one proportion or equivalent (see ATOMIC THEORY: ATOMIC WEIGHTS), the names of the compound bodies are contrived to express this. The term *protoxide* is applied to a compound of one equivalent of oxygen with one equivalent of another element; *binoxide* when oxygen is present in the proportion of two equivalents to one equivalent of the other element; and *teroxide* when the proportion is as three to one, and *sesquioxide* when three equivalents of oxygen are present to two of the other element. A *suboxide* contains less than one equivalent of oxygen; and a *peroxide* is the highest oxide not possessing acid properties. The same prefixes are applied to the compounds of chlorine, sulphur, etc.

When one element combines with another to produce several compounds possessing acid properties, various terminations are employed to distinguish the compounds. Thus, oxygen combines with a number of the elements to produce with each a series of acid compounds, the more highly oxidized of which receive the termination *ic*, while those containing *less* oxygen end in *ous*. Thus sulphuric acid contains three equivalents of oxygen to one equivalent of sulphur; and sulphurous acid, two equivalents of oxygen with one equivalent of sulphur. These terminations are qualified by the use of the prefixes *hypo* (under) and *hyper* (over). Thus *hyposulphuric* acid is applied to a compound containing less oxygen than the sulphuric acid, and *hyposulphurous* to one with less oxygen than sulphurous acid. The same applies to certain other elements, such as chlorine and sulphur. Ferrous chloride indicates the lower chloride and ferric chloride the higher chloride of the metal iron.

When acids combine with bases or metallic oxides to form salts, they produce compounds the names of which are influenced by the terminations of the acids. Thus, sulphuric acid and sodium form sodium sulphate; sulphurous acid and sodium, sodium sulphite; and *hyposulphurous* acid and sodium, sodium *hyposulphite*. In the same manner, nitric acid with potassium forms potassium nitrate, while nitrous acid and potassium produce potassium nitrite. A symbol denotes one equivalent of the element. Thus, O signifies one equivalent, or sixteen parts by weight, of oxygen; C, one equivalent, or twelve parts by weight, of carbon; H, one equivalent, or one part by weight, of hydrogen. The combination of two elements is represented

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By placing the symbols for those elements side by side; thus, H_2O signifies two equivalents of hydrogen and one equivalent of oxygen in a state of chemical combination (viz., water); and $NaCl$ is one equivalent of sodium (Lat. *natron*) united with one equivalent of chlorine (viz., common salt).

When two or more equivalents of one element unite with one or more equivalents of another element, the number of such equivalents is signified by a small figure placed immediately after the symbol of the element so multiplied. Thus, MnO_2 is one equivalent of manganese with two of oxygen (black oxide of manganese); Fe_2O_3 is two equivalents of iron with three equivalents of oxygen; and Pb_3O_4 is three equivalents of lead with four equivalents of oxygen (red lead).

In expressing the formula of a compound substance, the symbol of the metal or its analogue is generally placed first in order, and is succeeded by the oxygen, chlorine, or similar element. The same order is carried out in the construction of the formula of more complex substances; the metallic half is placed first. Thus, ferrous sulphate—containing sulphuric oxide and the oxide of iron—is generally expressed as $FeSO_4$. In other words, the symbols are written in the order in which the substances would be named in Latin.

In the construction of the formula of complex substances, the comma (,) and *plus* sign (+) are often introduced; the former to separate the component radicals or groups of a compound, and the latter to form a line of demarcation where the components are still less intimately combined. Thus, $FeSO_4 + K_2SO_4$ represents the compound of sulphate of iron with sulphate of potassium; $KCl + PtCl_4$ is the double chloride of potassium and platinum.

Large figures multiply all the symbols to the left until the end, or until a comma or plus sign appears. Thus, $3SO_3$ represents three equivalents of sulphuric oxide; and $K_2SO_4 + Al_23SO_4 + 24H_2O$ (alum) is one equivalent of sulphate of potassium, with one equivalent of sulphate of aluminum, and 24 equivalents of water. When a compound substance requires to be multiplied, it is inclosed within parentheses, and a large figure placed immediately before it, or a small one directly after it; thus, $3(K_2C_2O_4) + Fe_2(C_2O_4)_3 + 6H_2O$ represents three equivalents of potassium oxalate, one equivalent of ferric oxalate, and six equivalents of water.

In expressing the formulas of organic compounds, the symbols are generally written in the following order: CHNO.

Arbitrary symbols are occasionally used to represent important complex substances. Cyanogen is known as Cy; the organic acids are recognized by their initial letter with the sign (—) drawn above, as \bar{T} for tartaric acid, $C_4H_6O_6$; \bar{A} for acetic acid, $C_2H_4O_2$; and \bar{O} for oxalic acid, $C^2H^2O^4$.

For metals in general the symbol R is frequently em-

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ployed. If it denotes a metal forming sesquioxides a bar is drawn across it. Thus RO means any dyad metallic oxide. Sometimes the oxygen symbol is not written, but a dot is placed for it directly over the R or symbol of the metal or other element. Thus FeSO₄ might be written FeO.SO₃ and

with the abbreviated notation FeS. The barred symbols and dots are used to a great extent in mineralogical chemistry.

Chemical Equations.—The changes of atoms in molecules by replacement or addition thus far outlined may be expressed in algebraic form as equations. The elements of the reaction before it has occurred constitute the first member of the equation; the same after the change and in their new relations are the second member. Thus zinc, Zn, added to sulphuric acid, H₂SO₄, replaces the hydrogen and sets it free. This is expressed in an equation thus:



Thus equations can be written for all the changes. They express what takes place, but they cannot predict. Any number of equations can be written algebraically correct, but which would be chemically absurd or perhaps only impossible. Of course both sides must balance.

Formulæ—Plain, Rational, and Graphic.—The sulphuric acid molecule consists of two atoms of hydrogen, four of oxygen and one of sulphur united. Its plain formula is therefore H₂SO₄. It is a combination of the dyad acid unsaturated radical SO₄ with two atoms of hydrogen, a monad. Under this hypothesis one rational formula may be written for it thus: H₂.SO₄. It is formed by bringing water H₂O and sulphuric oxide SO₃ together. Under this hypothesis a second rational formula may be written thus: H₂O.SO₃. Again in the sulphuric acid molecule the hexad sulphur is combined with four dyad oxygens and two monad hydrogens. Hence, using little lines or bands to represent affinities, we may write the graphic formula thus:



Two classes of chemical work may be accepted as typical of the science. One is analysis, signifying unbinding; the other is synthesis, or putting together. By the first process the chemist ascertains the composition of a substance; by the second process he forms a substance by bringing together and combining the constituents. Analysis has been applied to almost all substances that exist on the earth as well as to meteorites, and it has been found that they are all composed of about 66 constituents which are called ele-

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ments. But of these only 12 enter largely into the composition of the earth.

To understand the modern theory of chemistry the ATOMIC THEORY (q.v.) must first be learned: see ATOM: ATOMIC THEORY: ATOMIC WEIGHTS: also related titles.

Mendelejeff's Law.—The relations of the atoms to each other have received important development in the recent history of the science. Systematic relation of the atomic weights had long been noticed, and various schemes of arrangement were proposed. That due to Prof. Mendelejeff, of Russia, has been generally adopted, and is given here in tabular form. (See next page.) It will be found that it brings forward a very striking relationship between the elements.

The elements contained in the table are arranged in groups and series. The groups contain elements of similar properties: the series are determined by the numerical relations. The coincidences of series, position, and grouping is very impressive: and strongly suggests the idea that the atomic weights are functions of the properties, or *vice versa*. Thus the first group contains the allied metals of the alkalis. These all are monads. Next come the dyad group containing the closely related metals of the alkaline earths. In the other groups similar occurrences will be noticed as in the fourth group—carbon, silicon, and titanium, all closely related chemically; in the fifth group nitrogen, phosphorus, antimony, and arsenic, and in the seventh group the haloids. Passing from left to right the capacity of combining with oxygen increases the possible combining ratios, determining the length of each series. Passing, on the other hand, from right to left, the same is to be said of the hydrogen combinations, except that the ratio of 1:4 cannot be passed, and is held by carbon in the fourth group.

The first group contains the strongest bases, the seventh group the strongest acid-forming elements, while the intermediate groups have intermediate properties. Thus the combining weight of an element fixes its position in the table; and its position being known, its general properties follow.

Another curious thing noticeable in the table is the occurrence of little groups of similar metals at the ends of the series. They do not occur elsewhere, and hence do not mar the regularity of the order.

Blanks will be observed. Each of these represents a hiatus. Of such blanks 27 occur; and indicate the probability of the existence of that number of undiscovered elements. This probability amounts to something. When Mendelejeff originally published his law he left two blanks in the system which have since been filled by germanium and scandium. No one can avoid feeling that the missing element falling in group IV. and series 5 with a combining weight of 72 will yet be discovered.

Metals.--Largely from their physical characteristics a number of the elements are called metals. They all possess the metallic lustre, are of opposite affinity to oxygen, can within certain limits for each case replace hydrogen in acids and other metals in salts. They conduct electricity

CHEMISTRY.

MENDELEJEFF'S TABLE.

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and heat comparatively well, and are generally solid at ordinary temperatures.

Metalloids.—The non-metallic elements are called metalloids. Some are solid, such as sulphur and iodine; bromine is liquid, and many are gaseous at ordinary temperatures, such as oxygen and chlorine. Some elements are on the border line, such as silicon and arsenic, it being hard to class such definitely as metals or metalloids.

Unsaturated Radicals.—An atom is always unsaturated until by entering the molecular state its bond or bonds, or atomicity or atomicities, are satisfied. As already stated an atom has only a hypothetical existence, and may be a monad, dyad, etc., up to hexad. The same is to be said of radicals. Thus the radical hydroxyl HO has one atomicity of the dyad oxygen unsatisfied; the group therefore is a monad radical and can have no independent existence. It can replace a monad element. Thus hydrochloric acid HCl, a combination of two monads, can have its monad atom chlorine (Cl) replaced by it, giving H.HO or H₂O which is water. The radical SO₄ which can have no independent existence is a dyad radical and can replace a dyad element or two monads. Thus the dyad oxygen of water H₂O can be replaced by it, giving H₂SO₄ or sulphuric acid. Or it can replace two monads. Thus two molecules of hydrochloric acid 2HCl may have both monad chlorines replaced by one dyad radical SO₄ giving H₂SO₄ as before. To emphasize this unsaturated feature of radicals the adjective unsaturated will be always applied to them here.

INORGANIC CHEMISTRY.—The name of this branch of the science was originally derived from the fact that it treats of those elements and compounds that form the inorganic or mineral portion of the world. Its signification has been broadened, and now it is defined by the character of compounds and elements irrespective of their origin. It merges into organic chemistry so that an exact line of demarcation cannot well be drawn. Thus the compounds CO₂ and H₂C₂O₄ may be considered to stand on the border line.

In general terms, unlike substances have the highest chemical attraction or affinity for each other. Thus hydrogen and oxygen, both colorless gases, when brought together, and heated unite with an evolution of light and heat and form water, a liquid at ordinary temperatures. As regards general properties and electric relations, hydrogen, sodium, and potassium may be accepted as representatives of one extreme, and oxygen, chlorine, and iodine of the other. When an element of one extreme unites with that of another, or when two groups, also of unlike properties, unite, a comparatively great amount of energy is set free, usually in the form of heat and often of electricity. If the uniting elements or molecular groups are similar, the energy set free is comparatively small. This amount is absolutely invariable for each case and has been determined for many combinations: see THERMO-CHEMISTRY.

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The elements or combinations resembling in their properties hydrogen and the metals are called *basic*; those at the other extreme are called *acid*; but these qualifying terms are not very definite. As basic elements all the metals may be cited, as basic compounds must of their oxides. As acid elements chlorine and the other halogens, and also sulphur, may be cited; as acid compounds, the higher oxides of the same. Thus oxygen, though typical of the acid elements, is itself a constituent of basic groups as well.

It will be seen further on that all organic chemistry is built up on a few types, and that by addition to or substitution of atoms of typical molecules, almost all its innumerable combinations can be produced. Inorganic chemistry can be treated in the same way. The principal types will now be given:

I. Basic oxides: Oxides of metals. In general terms the less oxygen they contain the more truly basic they are. Thus, ferrous oxide, FeO , can never play any role but that of a base; ferric oxide, Fe_2O_3 , generally is a base, and combines as such with acid molecules; but sometimes, as in magnetic oxide of iron, Fe_3O_4 , it approaches in functions an acid group, the rational formula of this oxide being FeO (base) Fe_2O_3 (acid).

II. Oxygen and haloid acids. A combination of an acid-forming oxide, radical or atom, with hydrogen. Chlorine and its congeners have been referred to as acid elements. Therefore HCl , HI , and HBr are acids, respectively called hydrochloric, hydriodic, and hydrobromic acids. The higher oxides tend to form acids. Thus the trioxide of iron, FeO_3 , united with water, H_2O , forms H_2FeO_4 , or ferric acid. In discussing oxygen acids, water, and an oxide may be treated as the constituent parts, as $\text{H}_2\text{O} \cdot \text{FeO}_3$, or hydrogen and an acid unsaturated radical, $\text{H}_2 \cdot \text{FeO}_4$. In the latter formula FeO_4 takes the place of an atom of oxygen in water.

III. Sulphur and other Acids.—These are the analogues of oxygen acids, except that sulphur or some other element may be substituted for oxygen. Thus arsenic acid, H_3AsO_4 , may have its oxygen replaced by sulphur, giving H_3AsS_4 , sulph-arsenic acid.

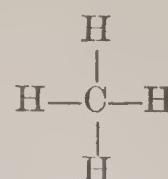
IV. Salts.—Compounds of an acid radical or atom with a basic element always a true or hypothetical metal. They are formed by replacement of the hydrogen of an acid by a metal. Thus zinc, Zn , added to sulphuric acid, H_2SO_4 , replaces the hydrogen, giving a salt known as zinc sulphate, ZnSO_4 . The hydrogen is set free. As hydrogen is a metal, acids are sometimes called hydrogen salts.

V. Hydrates.—Compounds of water with a saturated oxide. Thus ferrous oxide, FeO , combines with water, H_2O , giving ferrous hydrate, FeH_2O_2 .

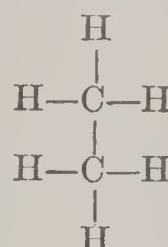
ORGANIC C.—The element carbon in its tetrad form may be termed the corner-stone of this branch of the science. When a single atom is completely saturated with the monad hydrogen we have the compound whose mole-

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cule has the formula CH_4 . This is methane or marsh gas. Its structural formula is

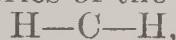


A second atom of carbon with two of hydrogen can be inserted, still giving a saturated molecule C_2H_6 ,



It is obvious that as many carbon atoms as we wish may in like manner be inserted, provided each carries with it two atoms of hydrogen. The general formula for all compounds thus formed is written $\text{C}_n\text{H}_{2n+2}$. Any compound of the series contains twice as many hydrogen atoms, and two additional, as it does carbon atoms. The series represents very stable compounds, and they are termed paraffins (*parum* little, *affinitas* affinity).

This series may be termed the basic series of hydrocarbons. Many other series exist in greater or less development. Thus, series of the type C_nH_{2n} are termed olefines.

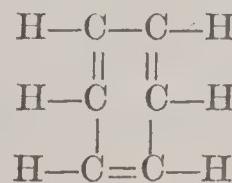


A type is C_2H_4 , || ethylene or olefiant gas. Many

$$\begin{array}{c} \text{H}-\text{C}-\text{H} \end{array}$$

other series might be cited, such as $\text{C}_n\text{H}_{2n-2}$, $\text{C}_n\text{H}_{2n-4}$, the hydrogen ratio changing by two atoms each time.

Up to a certain point the hydrocarbons may be structurally represented by chains, as such formulæ as shown are termed. But when the series $\text{C}_n\text{H}_{2n-6}$ is reached a departure has to be made. The formula for benzole, the lowest member of the series, is C_6H_6 , and it has a ring-like structure.



This is called the benzole ring, and on it are based the structural formulæ of a host of organic compounds.

In these hydrocarbons the respective atoms of hydrogen may be replaced by other atoms or unsaturated radicals. The group hydroxyl OH is a type of an unsaturated radical. Its structure $\text{H}-\text{O}-$ shows this, and shows also that it is a monad radical. It therefore can replace a single atom of hydrogen. Taking the second member of the paraffin series, C_2H_6 , we may replace one hydrogen by hydroxyl, and thereby get the compound $\text{C}_2\text{H}_5\text{OH}$. This

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it will be observed corresponds precisely with the inorganic molecules KOH, NaOH, NH₄OH, and many others, that are called hydrates or hydrated oxides. The particular organic compound is therefore ethylic hydrate (C₂H₅ = ethyl). It is ordinary alcohol. All alcohols are hydrates of organic unsaturated hydrocarbon radicals. All the series of hydrocarbons that we have spoken of are saturated. If from a saturated hydrocarbon, such as C₂H₆, a hydrogen is abstracted, the new group is called an unsaturated radical. In this case it is C₂H₅; such a radical is atomistic in its nature, as it cannot exist alone, but must be combined with some atom or radical.

Enough has been said to enable us to give the classification of organic compounds.

I. Hydrocarbons, containing even numbers of hydrogen atoms. Examples: CH₄, methane; C₂H₆, olefiant gas.

II. Alcohols.—Compounds of unsaturated hydrocarbon radicals with hydroxyle (OH). Examples: C₂H₅, OH ethyl or ordinary wine alcohol; C₃H₅(OH)₃, propenyl alcohol or glycerine.

III. Oxygen Ethers.—Compounds of the same radicals with oxygen. Examples: (C₂H₅)₂O, ethyl oxide or ordinary ether; (C₃H₅)₂(OH)₃, propenyl ether.

IV. Haloid Ethers.—Same as the preceding, except that chlorine, iodine, bromine, or fluorine take the place of oxygen. Examples: CHCl₃, methenyl chloride or ordinary chloroform; CH₃Cl, methyl chloride.

V. Sulphur, Selenium, and other, a, alcohols, and b, ethers.—Same as II. and III., except as containing other characteristic elements in place of oxygen or haloids.

VI. Organic Acids.—Compounds of unsaturated oxygen radicals with hydroxyl. Examples: C₂H₃O.OH, acetic acid; C₂H₅O₄(OH)₃, citric acid.

VII. Acid Halides.—Compounds of such oxygen radicals with chlorine, bromine, etc. Examples: (C₂H₃O)Cl, acetyl chloride; (C₆H₅O₄)Cl₃, citryl chloride.

VIII. Anhydrides, or Acid Oxides.—Formed from acids by replacement of hydroxyl by oxygen. Example: (C₂H₃O)₂O, acetic oxide.

IX. Compound Ethers, or Ethereal Salts.—Formed from acids by substitution of the hydrogen of the hydroxyl radical by a hydrocarbon unsaturated radical. Example: C₂H₃O.OC₂H₅.

X. Aldehydes.—Compounds intermediate between alcohols and acids. Thus:



XI. Ketones.—Derived from aldehydes by replacement of an atom of hydrogen by an unsaturated hydrocarbon radical. Thus:



XII. Amines.—Compound ammonias in which one or more of the hydrogen atoms of the compound NH₃ (containing trivalent N) are replaced by unsaturated hydro-

CHEMISTS AND DRUGGISTS—CHEMITYPE.

carbon radicals. Examples: NH_2CH_3 , ethyl amine; $\text{NH}(\text{C}_2\text{H}_5)_2$, diethyl amine.

XIII. *Amides*.—Analogous to amines, but containing oxygen radicals in place of hydrocarbon radicals. Example: $\text{NH}_2\text{C}_2\text{H}_3\text{O}$, acetamide.

XIV. *Phenols*.—Compounds formed from hydrocarbons formed on the benzole ring type by replacement of hydrogen by hydroxyl; sometimes classed as alcohols. Example: $\text{C}_6\text{H}_5\text{OH}$, phenol, or carbolic acid.

Several other classes could be produced in both inorganic and organic C., but the above represent the important divisions. For prominent members or compounds, see their respective titles.

CHEMISTS AND DRUGGISTS, LAWS RELATING TO: in the United States, municipal or state laws; not general as in Great Britain. Usually some conditions are prescribed for those who are to engage in the compounding and sale of drugs for medicine. A license is generally required, which can be obtained either on examination before some proper board, or on showing a certificate from some school or college of pharmacy. Legislation usually presumes that certificates obtained by examination are evidence of efficient education, but that the freedom of engaging in business ought not to be interfered with; and that the right of the citizen to consult whom he chooses, or to buy drugs from whom he will, must be respected. Serious mistakes, such as the substitution of one medicine for another, to the injury of the purchaser, are punishable by law, both in the unqualified and in the case of those qualified by examination or diploma.

In Great Britain, in 1868, it was deemed necessary, owing to the frequent evils arising from the facility of obtaining poisons, to enact that no person should sell, or keep open shop for selling poisons, or assume or use the title of chemist or druggist or pharmacist, unless he be registered under the act 31 and 32 Vict. c. 121, amended by 32 and 33 Vict. c. 117, and conform to the regulations as to sale of poisons. All persons who in 1868 carried on the business of chemists and druggists, and their apprentices and assistants, were entitled to be registered. The register of chemists and druggists under this act now contains the names of all qualified persons in Great Britain.—For the English distinction between the profession of apothecary, and the kindred one of pharmaceutical chemist, see APOTHECARY.

CHEMITYPE, *kēm'ī-tīp*: name given by the inventor, C. Pül, a Dane, to a chemical process of engraving in relief on a metal plate, and to the engraving so produced. On a polished plate of zinc an etching or an engraving is made in the usual way. The depressions of this design are then filled up with a melted metal—the nature of which is not revealed—and this superadded metal is then reduced to the exact level of the zinc, so that the design now appears as if inlaid. An acid is next applied to the surface, which attacks the zinc, without affecting the inlaid metal; and

CHEMNITZ.

thus there results an exact copy in relief of the original intaglio engraving. In competition with wood-cuts, relief-lithographs, and copperplates, C. does not yet evince any great superiority; it fails especially in that character of strength and softness which wood-cuts express so well. The prints produced by this art look more like engravings than like wood-cuts. They have this advantage, however, that they give an exact copy of the original design made by the artists on the metal; whereas in wood-cutting the drawing made on the block may be impaired in its effect by the engraver. C. is adapted particularly for producing maps by the common printing-press. Pül practiced his invention at first on a small scale in Copenhagen, 1843-46, and then extensively in Leipsic. In 1850, he went to Vienna, where he was employed in the imperial printing-establishment.

CHEMNITZ, *čém'nīts*, or *kém'nīts*: town of Saxony, at the base of the Erzgebirge, and at the confluence of the river Chemnitz with three other rivers; lat. $50^{\circ} 50'$ n., long. $17^{\circ} 55'$ e. It is the principal manufacturing town of Saxony—its industry consisting in weaving cottons, woolens, and silks, and in printing calicoes, chiefly for German consumption. Cotton stockings are a most extensive manufacture, and rival the British in quality and cheapness. The American markets are chiefly supplied from this place. It has several extensive machine-factories, producing machinery for flax and wool spinning, weaving, and mining industry. Among the numerous educational institutes of C. are schools of weaving, mining and tailoring. For four centuries, C. was a free imperial city. Traces of its antiquity are seen in many of the buildings. Pop. (1880) 95,123; (1885) 110,817; (1895) 160,991.

CHEMNITZ, *čém'nīts*, MARTIN: 1522, Nov. 9—1586, Apr. 8; b. Treuenbrietzen, Brandenburg: next to Luther and Melanchthon the most distinguished German Protestant theologian of the 16th c. He studied at Frankfurt and Wittenberg; and, 1548, became rector of the cathedral-school of Königsberg. About 1550, he applied himself seriously to theology, and in 1553 went back to Wittenberg, where he delivered prelections on Melanchthon's *Loci communes*, from which sprang his own *Loci theologici*, which, for method and learning, excels all similar books of the same age. In 1554, he was made a preacher in Brunswick, where he wrote his *Repetitio Sancæ Doctrinæ de Vera Presentia Corporis et Sanguinis Domini in Cœna Sacra* (Leip. 1561), in which he defended Luther's view of the Lord's Supper against that of the Swiss reformers; *Theologiae Jesuitorum Præcipua Capita* (Leip. 1562); and *Examen Concilii Tridentini* (Leip. 1565), an argument of remarkable acuteness and learning against the dogmas of the Church of Rome. His *Corpus Doctrinæ Prutenicæ* (1566), written in conjunction with Mörlin, became a standard work of divinity among the Prussian Protestants. But his greatest ecclesiastical achievement was inducing the Saxon and Swabian churches to adopt as their confession of faith the

CHEMNITZIA—CHENERY.

Concordienformel, thus extending and consolidating the creed of Luther. He died at Brunswick.

CHEMNITZIA, *kěm-nít'zǐ-a*: genus of gasteropodous mollusca. It has a slender, elongated, many-whorled shell; the whorls striated; a simple semi-oval aperture; and a horny operculum. There are many recent species scattered all over the world. The discriminating characters of the fossil species being taken from the form of the shell, it is more than probable that the remains of very different animals are classed under this generic name. No less than 180 species have been described, occurring throughout all the divisions of the fossiliferous strata from the Lower Silurian upward.

CHEMOSH, *kē'mosh*: national deity of the Moabites and Ammonites. Gesenius derived the name from *kamash*, to subdue, and considered him the god of war; Hackmann thought it meant royal deity. Jerome erroneously identified C. with Baal-Peor; others supposed him the same with Baal-Zebub, or with Saturn. According to tradition he was worshipped under the symbol of a black star; Maimonides says his votaries used no head-covering, and no garments sewn with needles. Children appear to have been sacrificed to him. His name occurs on the Moabite Stone. The worship of C. was introduced among the Jews by Solomon, but stopped by Josiah.

CHENAB, or CHENAUB, *chē-nā'b'*: largest, according to general opinion, of the five rivers which give name to the Punjab. Like most of the principal streams of India, it rises n. of the Himalayas, making its way through the Ritanka pass, 13,000 ft. above the sea, and having its source about lat. $32^{\circ} 48'$ n., and long. $77^{\circ} 27'$ e. After a descent through 300 m., the C. reaches the level country. At the end of another 300 m. it receives, on its right, the Jhelum, in lat. $31^{\circ} 12'$ n., long. $72^{\circ} 12'$ e.; 50 m. further down, it is joined, on its left, by the Ravee; and 110 m. lower, it absorbs, through the Ghara on its left, the mingled waters of the Beas and the Sutlej. Lastly, at a distance of 60 m., the accumulated floods, under the designation of Punjnad, lose themselves in the Indus, lat. $28^{\circ} 55'$ n., long. $70^{\circ} 28'$ e.—being still 470 m. from the ocean.

CHENANGO RIVER, *she-nāng'gō*: in central New York. It rises in Oneida co., flows s. and s.w. through Madison and Chenango cos., and joins the Susquehanna about 10 m. n. of Binghamton, in Broome co. Length 90 m.

CHENDAREE, or CHUNDAREE: see CHANDHAIREE.

CHENERY, *chē'nér-i*, THOMAS: 1826–84, Feb. 8; b. Barbadoes: journalist and orientalist. He was educated at Oxford, England; was called to the bar, and sent to Constantinople as correspondent of the London *Times*, with which his connection continued till he died. Gaining great knowledge of eastern languages, he made translations from the Arabic, bore part in the revision of the Old Testament, and was prof. of Arabic at Oxford, 1868–77.

CHENEY—CHENOPODIACEÆ.

In Mr. Delane's retirement, 1877, Nov., he succeeded to the editorship of the *Times*.

CHENEY, chē'nī, WARD: 1813–76, Mar. 22; b. South Manchester, Conn.: silk manufacturer. After some years spent in business at Providence, and in silk-culture at Burlington, N. J., he established, 1836, with Charles C. (1804–74) the firm of Cheney Bros. at his birthplace, and built up an extensive business, employing 2,500 operatives. Their silks were considered unsurpassed, and were in special demand for use in sewing-machines. The firm became a joint-stock company, of which Mr. C. was pres., as also of the Silk Assoc. of America. The brothers established a modern manufacturing village on their father's farm at S. Manchester.

CHENILLE, n. shē-nēl' [F., a caterpillar]: a twisted velvety thread; a soft, loose cord of silk or worsted—so named from its supposed resemblance to a species of caterpillar.

CHENONCEAUX, CASTLE OF: see BLÉRÉ.

CHENOPODIACEÆ, kē-nō-pōd-ī-ā'sē-ē, or **SALSOLACEÆ**, sāl-sō-lā'sē-ē: natural order of exogenous plants, consisting

of herbaceous and half-shrubby plants, with leaves entire or divided, and destitute of stipules. The flowers are inconspicuous, hermaphrodite, or unisexual; the perianth deeply divided, persistent; the stamens inserted into its base, opposite to its segments, and equal to them in number, or fewer; the ovary single, free, or occasionally adhering to the tube of the perianth, with a single ovule attached to the base of the cavity; the style generally with 2–4 divisions. The fruit is membranous, inclosed in the perianth, which sometimes becomes fleshy. The seed has a curved or spiral embryo.—There are about 360 known species, most of which have a weed-like appearance, and grow in waste places. They are widely diffused over the world, but abound particularly in the n. parts of Europe and Asia. Beet and spinach are among the best known and most useful plants of the order.



Blitum Capitatum:
a, whole plant, reduced; b, a single flower; c, the same, after flowering.

Many are occasionally used as pot-herbs, as some species of *Chenopodium* and of orache. The fruit of Strawberry Blite (*Blitum capitatum* and *B. vir-*

CHENOPODIUM.

gatum), a common weed in the s. of Europe, has some resemblance in appearance to a strawberry, from the coherence of the fleshy perianths of a whole spike or head of flowers, and a sweetish, insipid taste. The seed of Quinoa (q.v.) is used for food as a kind of grain. Some of the C. are aromatic (see CHENOPODIUM). Some inhabit salt-marshes, and abound in soda, as the saltworts (q.v.).

CHENOPODIUM, *kē-nō-pōd'ē-ūm*: genus of plants of the nat. ord. *Chenopodiaceæ*, of which some species are well known by the name of GOOSEFOOT, as weeds growing in gardens, on heaps of rubbish, and in waste places. The species are mostly annuals, with entire or toothed leaves, which, in some of them, have a sort of mealy hoariness. They are natives mostly of Europe, and of the temperate parts of Asia; but some are natives of America, into which also some of the common European species have found their way, and are naturalized as weeds. The genus has hermaphrodite flowers, with perianth of five small green scales, five stamens, and solitary, flat seeds. The leaves of many species are used as a substitute for spinach, particularly those of the GOOD HENRY, WILD SPINACH, or ENGLISH MERCURY (*C. Bonus Henricus*), a perennial plant, native of Britain and other parts of Europe, often found growing by waysides, with stem more than a foot high, powdered with minute transparent globules, and large, alternate, triangular, arrow-shaped, entire leaves. It is cultivated in some places, chiefly for the leaves, though the young shoots are used as asparagus. *C. intermedium*, *C. album*, etc., annuals, common in waste places, also are excellent substitutes for spinach. *C. olidum* or *vulvaria* (STINKING GOOSEFOOT), an annual with extremely nauseous odor, growing in waste places in Britain, etc., especially near the sea, is a popular medicine, in much repute as an anti-spasmodic and emmenagogue. *C. Botrys*, native of the s. of Europe, with pinnatifid leaves resembling those of the oak, and hence called JERUSALEM OAK, is in use as an expectorant and anthelmintic. It is not fetid like the species last named, but agreeably fragrant.

O. Ambrosioides has a strong aromatic odor, is used in Mexico instead of tea, and is much cultivated in France, an infusion of it being deemed useful in nervous disorders. *C. anthelminticum*, the WORM-SEED of the United States, has a strong and somewhat aromatic odor, and a high rep-



Chenopodium Bonus Henricus:

a, upper part of stem with flowers, reduced; *b*, *c*, *d*, separate flowers, with two, three, and four stamens.

CHEOPS—CHER.

utation as a vermifuge. Its seeds chiefly are used, or the essential oil extracted from them, called *Oil of Worm-seed*. More important than any of these species, as affording a principal article of food in the countries of which it is a native, is QUINOA (q.v.).

CHEOPS, *ke'ops*: a king of Egypt, so-called by Herodotus, and by others Chembes, Souphis, and Saophis. The original name, Khufu, supposed to mean wealthy, or hairy, is found on several monuments and on stones in the great pyramid at Ghizeh, which he built at enormous expense of life and treasure. To finish it, according to one tradition, he sacrificed his daughter's honor. His oppression and consequent unpopularity gave rise to reports of his impiety in closing the temples and stopping the worship of the gods: the monuments, on the contrary, credit him with building or repairing temples of Isis, Athor, etc. He is said to have written a sacred book held in much esteem; this may have formed part of the ritual. He had a war in the Sinaitic peninsula, in Arabia, as recorded by a rock tablet at Wady Magarah. Eratosthenes says C. reigned 29 years, and Manetho gives him 63, which are fixed by Lepsius as B.C. 3095–3032; but these dates are made extremely doubtful by a difference of nearly 2,000 years in estimating those of Menes, who, according to the lists, preceded C. by 898 years. His character and reign are so nearly prehistoric as to be involved in great obscurity. See EGYPT: PYRAMID.

CHEPHREN: see KHUFU II.

CHEPSTOW, *chēp'stō*: river-port in the s.e. of Monmouthshire, England, on the right bank of the Wye, 2½ m. from its junction with the estuary of the Severn, and 14½ m. e.n.e. of Newport. It lies between bold cliffs, on a slope rising from the river, in the midst of beautiful and grand scenery. There is a fine view from a rock called Windcliff, 970 ft. high, 3½ m. up the river. The streets are broad. Here occurs the highest tide in Europe, rising suddenly, with a fierce current, often 50, and on rare occasions even 70 ft. Large vessels reach the town. One of the wells of the town ebbs and flows with the tide. Over the Wye is a railway bridge combining the suspension and tubular principles of construction. C. has a magnificent castle, built in the 11th c., and a fine Benedictine priory recently restored. It has few manufactures, but exports corn, cider, bark, iron, millstones, timber, and salmon. In 1880, 918 vessels, of 25,071 tons, entered and cleared the port. Pop. (1871) 3,347; (1881) 3,585; (1891) 3,378.

CHEQUE, n. *chēk*: see CHECK.

CHEQUERS: see under CHECKER.

CHER, *shär*: tributary on the left side of the river Loire, rising near Crocq, dept. of Creuse, France; flows first by Auzanze, Evaux, Montluçon, and St Amand; then n.w. through the dept. of Cher by Vierzon; then w. by Selles, Montrichard, and Bléré to the Loire, which it joins below

CHER—CHERBOURG.

Tours. Length about 200 m.; navigable for the last 47 of its course.

CHER: central dept. of France, named from the river C.; lat. $46^{\circ} 25'$ — $47^{\circ} 39'$ n., and in long. $1^{\circ} 55'$ — $3^{\circ} 10'$ e.; upward of 2,700 sq. m. The surface is mostly level, traversed by well-wooded elevations, and produces corn, fruits, wine, hemp, flax, etc. The climate is mild and pleasant. Agriculture and pasturage of cattle are moderately advanced. C. is divided into the three arrondissements—Bourges, St. Amand, and Sancerre—Bourges is the chief town. Pop. of C. (1881) 351,405; (1901) 345,543.

CHERASCO, *kā-răs'kō*: town in the province of Cuneo, n. Italy; on the Tanaro, 30 m. s.e. of Turin. It has manufactures of silk. A peace was concluded here between Louis XIII., of France, and the Duke of Savoy 1631. 1796, Apr. 26, the place was taken by the French, and here, three days after, the 'Armistice of Cherasco' was concluded between the Sardinian commissioners and Napoleon, by which the latter obtained the right of free passage for his troops through the Sardinian States; and the treaty that followed gave to the French republic Savoy, Nice, and the possessions of Piedmont to the westward of the Alps' highest ridge. Pop. of C. abt. 5,000.

CHERBOURG, *shĕr'bürg*, Fr. *shär-bör'*: fortified seaport town and arsenal of France, dept. of Manche; at the head of a deep bay on the n. extremity of the peninsula of Cotentin, on the English Channel, opposite the w. coast of the Isle of Wight; lat. $49^{\circ} 40'$ n., and long. $1^{\circ} 35'$ w. Napoleon I. began to build the great defenses of this n. stronghold of France. His nephew, Napoleon III., developed his plans, but not with the original view of an invasion of England, though this was by some alleged. Occupying a prominent position on the French coast, only some 60 m. removed from the s. shore of England, the harbor-works have been extended, strengthened, fortified, and provisioned with cannon—the dock-yards improved, and facilities of embarkation afforded, to a degree that, as it is unparalleled in ancient or modern times, not unnaturally excites the apprehension of Englishmen. For a description of the stupendous breakwater of C., inclosing a space of nearly 2,000 acres, see BREAKWATER. In connection with its fortifications, this breakwater assumes an importance that attaches to no other work of the kind in existence. At the apex of the angle formed by the meeting of the two branches of the breakwater or *digue*, there is a centre fort or battery, measuring 509 ft. on the inner line of the parapet, which forms a flat semi-ellipse. The circular forts at the extremities of the breakwater are remarkably well placed for purposes of defence. Behind the centre battery there is to be an elliptical tower, measuring 225 ft. on the major, and 123 ft. on the minor axis. Altogether there are six large batteries on the mole. The entrances to the harbour are round the ends of the mole; and the passages are further defended by the fortifications of the Ile Pélée, and by the batteries of La Roche Chavaignac and Fort Querque-

CHERBULIEZ—CHERIBON.

ville. A series of coast redoubts, and the two large fortifications of Les Roches des Flamands and du Homet, are behind this outer zone of defense. ‘The arsenal,’ says W. H. Russell, who visited C. during the summer of 1860, ‘is inclosed by a continuous line of bastion and curtain of a very elevated profile, defended by outworks, wet and dry ditches, and by profuse batteries of the heaviest guns, either in casement or *en barbette*. Wherever you look, you fancy that on the spot you occupy are specially pointed dozens of the dull black eyes from their rigid lids of stone.’ Altogether, besides the batteries on the mole, C. is defended by 24 regular forts and redoubts. The town itself is commanded by La Roule (an exceedingly strong fort) and Fort d’Octeville on the heights behind. The military port of C. consists of an outer harbor of 776 ft. in length by 663 ft. wide, its minimum depth being 58 ft., and the entrance to which is 206 ft. wide at its narrowest point. This harbor communicates by means of a lock with a floating basin, 957 ft. long by 712 wide. The outer harbor has four building-slips for 120-gun ships, besides some smaller slips, and a fine graving-dock. In 1858, Aug., an inner floating-harbor was inaugurated by the Emperor of the French, in presence of the queen and many of the lords and commons of Great Britain. This harbor, entirely cut out of the solid rock, has a length of about 930 yards, and a breadth of 437 yards, and is surrounded by beautiful building-slips and capacious graving-docks. It is calculated that the roads of C. cannot, on account of the small depth of the greater portion, shelter more than 25 or 30 sail of the line, and about as many frigates, at one time. C. has on the s.e. a commercial port quite distinct from the other; but it shows little activity, the principal exports being eggs, butter, and cattle. The town itself is insignificant, the streets being narrow and dirty; and there are no public buildings of note. There are some manufactures of hosiery, chemicals, lace, and leather, and sugar and salt refineries; but the industrial energies of the great bulk of the population are absorbed in the arsenal and dock-yards. C. is a very ancient place; in the 10th c. it was known under the name of *Carusburg*. In 1758, C. was taken by the English, who destroyed the naval and military works, and levied a contribution on the town. Pop. (1886) 37,013—with suburbs. Jourlaville, Octeville, Equeurderville, 51,774; (1901) 42,938.

CHERBULIEZ, *shér-bü-le-ā'*, ANTOINE ÉLISÉE: 1797-1869, Mar. 4, b. Geneva: political economist. He was a prof. at Geneva and Zurich, opposed Proudhon and the Socialists, and wrote *L'Utilitaire* (3 vols., Geneva 1828-30), and *Précis de la Science économique* (2 vols., Paris 1862). He died at Zurich. The family was noted for literary talent; Victor C., the brilliant novelist, is a nephew of Cherbuliez.

CHERIBON, or SHERIBON, *shér'e-bon*: seaport town of Java, on the n. coast, 125 m. e.s.e. of Batavia. It has a considerable trade in coffee, indigo, and teak-wood, and is the residence of a Dutch governor. Pop. 11,000.

CHERIMOYER--CHERISH.

CHERIMOYER, *chér-i-moy'er*, or CHIRIMOYA, *chir-i-moy'a* (*Anona Cherimolia*): the most esteemed fruit of Brazil and Peru; now common and even naturalized in some parts of the E. Indies, and other tropical countries of the old world. It is a fruit of most delicious flavor, is sometimes described as the finest of all fruits, and sometimes as inferior only to the mangosteen. It belongs the same genus with the custard apple (q.v.). Both flowers and fruit emit a pleasant fragrance, but when the tree is covered with blossoms, the odor is so strong as to be almost overpowering. The fruit varies from the size of an orange to 16 lbs. or upward in weight. It is roundish, or heart-shaped. Externally, it is greenish, covered with



Cherimoyer:
Branchlet with leaves, and section of fruit.

small-knobs and scales. The skin is rather thick and tough. Internally, the fruit is snow-white and juicy, and contains a number of small brown seeds. The eatable part is soft like a custard, and forms almost the entire mass of the fruit. The C. attains its highest excellence only in particular soils and situations, and some varieties are much finer than others.

CHERISH, v. *chér'ish* [F. *chérisson*, loving dearly; *cherir*, to love dearly, to cherish—from F. *cher*, dear—from L. *carus*, dear]: to treat with tenderness and affection; to foster; to give warmth; to protect and aid; to harbor in the mind, as feelings of ill-will. CHER'ISHING, imp.: N. support; encouragement. CHER'ISHED, pp. -*isht*: ADJ. com-

CHERKASK—CHEROKEES.

forted; fostered. **CHER'ISHER**, n. one who. **CHER'ISHINGLY**, ad. -*li*. — **SYN.** of 'cherish': to nourish; nurture; foster; feed; nurse; comfort; support; entertain.

CHERKASK': see **TCHERKASK**.

CHEROKEES, *chér-ō-kēz'* (**TSARAGHEE**, or **CHELAKÉ**): important Indian tribe formerly dwelling in w. Fla., Ga., Ala., Miss., and Tenn; divided into the Otari of the mountains and the Airate or Erate of the lowlands, with subdivisions into seven clans. They were usually friendly to the English colonists, recognized the king's supremacy 1730, ceded part of their territory and allowed the erection of forts 1755, and after some disturbances made peace 1761. They sided with the British in the revolutionary war, and lost their lands s. of the Savannah and e. of the Chattahoochee, but were confirmed in possession of the remainder by the treaty of Hopewell, 1785, Nov. 28, where they acknowledged the United States as independent and sovereign. After this they were gradually crowded out by the advance of immigration and the rapacious injustice of the whites. More of their territory was surrendered by treaties of 1791 and 1798, and many of the tribe went beyond the Mississippi; there were 3,000 of them on the Arkansas 1817. Those who remained largely exchanged hunting for farming, became in good degree Christianized under the labors of Moravian and other missionaries, and rendered good service in the war of 1812; but all was of no avail, the Indian 'must go.' Georgia outlawed them, the supreme court denied their appeal, and the U. S. govt., after confessing its inability to fulfil obligations of its own assuming, made a treaty 1835 wlth a small minority of the tribe for the removal of the whole, then some 27,000. John Ross and his followers objected, but yielded under the persuasion of Gen. Scott and 2,000 soldiers, sent 1838 to effect the transfer. They were placed in the Indian Territory, wherc they now possess some 5,960 sq. m. in the n.e. corner and 8,500 in the n. Their healthful progress was interrupted by the civil war, in which they at first took the southern side. Though many fought for the Union, they had to give up parts of thcir lands to their emancipated slaves. They have advanced greatly in prosperity and the arts of peace, assisted by Moravian, Baptist, Methodist, and Congregational missions. George Guess, one of the tribe, devised an alphabet 1821, and since then books and papers have been printed in the two dialects of their language; a third, Gidoowa, has been lost. A Cherokee newspaper is now published at the capital, Tahlequah, and books are becoming more numerous. The C.'s are governed by a national committee and council elected for two years, and a chief chosen for four. According to the census of 1900 the Cherokee reservation had a population of 101,754. The Cherokees live in dwellings, not wigwams. They have an asylum for orphans, seminaries, and 100 private schools, \$80,000 being expended annually for education. No government school is maintained. The nation is governed by a chief and a legislature. Several

CHEROOT—CHERRY.

of the tribe have attained distinction, and others are becoming known as business men and capitalists. See INDIANS, AMERICAN.

CHEROOT, n. *shē-rōt'* [from a native name]: a kind of cigar, originally from Manilla, in the Philippine Islands.

CHEROPOTAMUS, n. *kēr'ō-pōt'ā-mūs* [Gr. *choiros*, a hog; *potámos*, a river]: a fossil animal very closely related to the hog family.

CHERRY, n. *chēr'rī* [F. *cérise*—from L. *cer'āsus*, so named from *Cerūsus* in Pontus: Ger. *kirsche*]: a well-known small fruit, of a red, and sometimes black color, consisting of a pulp surrounding a pip or stone; the *Cerūsus avium*, or *C. vulgāris*, ord. *Rosacēa*: ADJ. ruddy. CHERRY-PIT, a child's play. CHERRY-BRANDY, brandy in which cherries have been steeped. CHERRY-STONE, the hard kernel of the cherry.

CHERRY (*Cerasus*): genus or sub-genus of plants of which the best known yields one of the most esteemed stone fruits. This is usually regarded as a sub-genus of *Prunus* (see PLUM), but is erected by some botanists into a distinct genus on very slender grounds, the most obvious distinction between the species of *Cerasus* and the true species of *Prunus* being that, in the former, the young



Common Cherry (*Cerasus dura'cina*):
a, branchlet with leaves and fruit; b, flower.

leaves are conduplicate, or folded up, and in the latter they are convolute, or rolled together. Two species are generally regarded as the parents of the garden cherries usually cultivated, *Prunus* or *Cerasus Avium*, and *P. cerasus* or *C. vulgaris*—the former having the underside of the leaves hairy and a small austere fruit; the latter having smooth, shining leaves and a more juicy fruit. *C. Avium* attains a height of 40-50 ft. *C. vulgaris* is a smaller tree. Both

CHERRY-LAUREL.

have white flowers in clusters or nearly sessile umbels, and both are generally regarded as natives of Britain, and of the middle and south of Europe. In a wild state they are usually called GEAN (*guigne*), and *C. Avium* is frequently planted—not only because it is exceedingly ornamental when in flower, but also as a timber-tree, being of rapid growth, with firm, strong, close-grained wood, suitable for the purposes of cabinet-makers, turners, and musical-instrument makers. But, according to some botanists, there is only one species, of which these are varieties; and according to others, *C. vulgaris* is a native of Syria and other parts of w. Asia, and is only naturalized in Europe, having been brought first to Italy by Lucullus, after his victory over Mithridates (B.C. 74), from Kerasunt, on the coast of the Black Sea, whence it derives its name. The cultivated varieties of the C. are very numerous and differ considerably in size, color, and flavor. The fruit of the C. supplies the inhabitants of parts of France with a principal article of food, especially the wood-cutters and charcoal burners of the forests: among their modes of preparing it is that of making it a principal ingredient in soups. It ripens in Norway and East Bothnia as far n. as lat. 63°. In some parts of Germany the public roads are lined for many miles together with avenues of C. trees. Besides its use for the dessert and for preserves, the C. is used extensively for making liqueurs: see KIRSCH-WASSER: MARASCHINO. Varieties of C. with double flowers, and with pendulous branches, are frequently planted for ornament in shrubberies, and few trees or shrubs are more beautiful. The *All-saints* C. produces flowers almost all summer, and even in autumn. Its fruit is small and rather acid. The other species of C. are numerous. Some species are low, or even prostrate shrubs, as *C.* or *P. chamaecerasus*, the GROUND C. of the s. of Europe and of Siberia; and *C.* or *P. pumila*, the SAND C. of N. America.—The genus or sub-genus *Cerasus* contains also the different kinds of Bird C. (q.v.) and Choke C. (q.v.), including the American WILD C., famous for its medicinal bark; the MAHALEB (*C.* or *P. Mahaleb*) of the s. of Europe, and the CAPOLLIM (*C.* or *P. capollim*) of Mexico and Peru—the first famous for the fragrance of its flowers, and the second for the fragrance of its fruit; and the CHERRY-LAUREL (q.v.).

CHERRY-LAUREL, or LAU'REL-CHERRY: name given to those species of *Prunus* or *Cerasus* (see CHERRY) which have evergreen leaves. They are often called also LAUREL. They have small flowers in long racemes, and small fruit; the fruit of a nauseous taste; and most parts of the plant, but particularly the leaves and kernels, remarkably abounding in hydrocyanic (prussic) acid, and therefore very poisonous.—The COMMON C., sometimes called the BAY-LAUREL, or LAUREL-BAY, very often spoken of simply as the LAUREL or COMMON LAUREL (*Prunus* or *Cerasus Laurocerasus*), is a shrub, sometimes of very large size, with ovato-lanceolate, convex, smooth, remotely serrated, shining, yellowish-green leaves, and erect racemes of flowers. It is originally from Asia, but is now naturalized through-

CHERRY VALLEY—CHERT.

out the s. of Europe, and is one of the most common ornamental shrubs in Britain, where it suffers only from such severe frosts as are of rare occurrence. It is propagated by seeds, layers, and cuttings. Its leaves resemble bitter almonds in smell and taste, and contain in great abundance the same essential oil (see ALMONDS, VOLATILE OIL OF), rich in hydrocyanic acid. From these leaves, by maceration in water for 24 hours, and subsequent distillation, is obtained the *Laurel-water* (q.v.), or *Cherry-laurel water* sometimes employed in medicine as a substitute for hydrocyanic acid, and which formerly was so much used as a poison. The leaves are sometimes employed also for flavoring puddings, sauces, etc., and though safer for such purposes than oil of bitter almonds, yet ought to be used with caution.—Another species, also a common ornamental shrub, but not quite so hardy as the common C., is the PORTUGAL LAUREL (*Prunus* or *Cerasus Lusitanica*), native of Portugal, a large shrub—sometimes a tree—with dark-green leaves and lateral racemes. It does not grow so well under the shade of trees as the common cherry-laurel. From the dissimilarity of form and color of their leaves, these species present a pleasant appearance when mixed as they usually are in the shrubbery.

CHERRY VALLEY: village of Otsego co., N. Y., 68 m. w. of Albany, on a branch of the Albany and Susquehanna R. R. It was entirely burned 1778, Oct. 11, by 500 Indians and tories, led by Major Walter Butler and Joseph Brandt; 16 soldiers and 32 others, chiefly women and children, were massacred, and the remainder of the inhabitants carried off. C. V. was incorporated 1812. It is pleasantly situated on C. V. creek, and has an academy, a bank, and a newspaper. Pop. (1870) 930; (1880) 856; (1900) 772; township about 1,200.

CHERSIPHRON : see EPHESUS.

CHERSO, *kér'sō*: island of Illyria, belonging to Austria; in the Adriatic, 12 m. s.s.w. of Fiume; abt. 105 sq. m. A bridge unites it with the adjoining isle of Lossini. Its surface is generally hilly and rugged, with forests in the north. Pop. (1880) 9,550.

The chief town is Cherso, at the head of a bay on the w. side. Pop. (1880) 4,670.

CHERSON' : see KHERSON.

CHERSONESE, n. *kér'sō-nēz*, less correctly *ché'r'-* [Gr. *cherisos*, land; *nēsos*, an isle]: a tract of land, of any extent, nearly surrounded by water; a peninsula.

CHERSONESUS, *kér-so-né'sús*: ancient name of several peninsulas and promontories in Europe, the most important of which are the Crimea (q.v.), *C. Taurica*; Gallipoli (q.v.), *C. Thracia*; and Jutland (q.v.), *C. Cimbrica*.

CHERT, n. *chért*, or HORNSTONE [W. *cellt*, flint-stone; *callestr*, pyrites, flint: OE. *chart*, common rough ground: Ir. *ceart*, a pebble: perhaps only a corruption of *quartz*]: variety of quartz, always massive, and having a kind of granular appearance and structure. It is common in the

CHERTSEY—CHERUB.

Mountain Limestone, Oolite, and Green-sand formations; sometimes forms rocks, and often contains petrifications. It passes into common quartz and chalcedony; also into flint and flinty slate. Its colors are gray, white, red, yellow, green, or brown. The name C. is sometimes limited to the finer varieties, and the coarser are called Hornstone.—The name C. is very commonly given to the silicious concretions which occur as nodules and layers in limestone rocks, like flints in the chalk. When these materials exist to such an extent as to render the limestone useless for economical purposes, it is said to be 'cherty.' **CHERTY**, a.-*tī*, flinty.

CHERTSEY, *chē'sē* (Anglo-Saxon, Ceort's Eye or Island): town in the county of Surrey, England, on a low strip of land between the right bank of the Thames, here crossed by a stone bridge, and the brook from Virginia Water, 20 m. w.s.w. of London. It is irregularly built, consisting chiefly of two long cross-streets, and is surrounded by villas. The chief trade is in malt and flour. There are also boat-building and lumber yards. C. arose in a monastery founded 666, rebuilt 964 by Edgar and the Benedictine monks. The South Saxon kings had a seat here during the heptarchy. Charles James Fox lived on St Anne's hill, an abrupt elevation about a mile from the town. Cowley the poet resided in Chertsey. Pop. of parish (1861) 6,589; (1881) 9,215; (1891) 11,298.

CHERUB, n. *chēr'üb*, **CHER'UBIM**, n. plu. -*ō-bīm*, or **CHERUBS** [Heb. *kerub*—from *kārab*, to grasp: Syriac, *cerūb*, great, strong]: a figure represented under the form of various creatures; a heavenly being. **CHERU'BIC**, a. -*ō'bīk*, or **CHERUBICAL**, a. *chēr-ō'bī-kōl*, angelic. **CHER'UBIM**, n. plu. -*ō-bīm* [Heb. plu. of *cherub*]: angels; heavenly beings. **CHERUBIN**, a. *chēr'ō-bīn*, having the character of a cherub: N. cherubs.

CHER'UB: Hebrew name of a winged creature with a human countenance, which in the Scriptures is almost always represented in connection with Jehovah, and especially as drawing his chariot-throne. Cherubim are mentioned in the Old Testament first as guards of paradise; a C. with a flaming sword hindered the return of the expelled human pair. In the Holy of Holies in the tabernacle, and afterward in the temple, cherubim wrought in embossed metal were represented above the mercy-seat, or covering of the ark of the covenant, so that they appeared to rise out of it. Figures of cherubim were also wrought into the hangings of the Holy of Holies. The cherubim that appear in the visions of Ezekiel and the revelations of John depart much from the early representations. In Ezekiel they have the body of a man, whose head, besides a human countenance, has also that of a lion, an ox, and an eagle; they are provided with four wings, two of which support the chariot of Jehovah, and serve to fly, while the other two cover the body; the hands are under the wings, and the whole body is spangled with innumerable eyes. In the Revelation, four cherubim covered with

CHERUBINI.

eyes, and having six wings, surround the throne of Jehovah; the first has the face of a lion, the second of an ox, the third of a man, and the fourth of an eagle. This gave rise at a very early period to the symbolical figures of the four evangelists, the human countenance being associated with Matthew, that of the lion with Mark, of the ox with Luke, and of the eagle with John. Most Jewish writers and Christian fathers conceived the cherubim as angels; and Dionysius the Areopagite, in his *Celestial Hierarchy*, makes them a separate class in the first hierarchy. Most theologians also considered them as angels, until Michaelis showed them to be a poetical creation; and Herder, in his *Spirit of Hebrew Poetry*, compared them to the griffins that watch treasures and other fabulous figures. They are now considered by nearly all biblical scholars, not as living angels, nor as representations of these; but as symbolic forms used as vision-emblems of grand and mysterious Divine powers developed in the great forces of nature emblems perfectly fitted to the cloudy splendors and vast perspective of prophecy. In Christian art they are generally represented as sexless figures, with wings from the shoulders, the legs also either covered by wings, or having wings substituted for them. Very often they have also a glory round the head.



Cherub.

CHERUBINI, *kā-rō-bē'nē*, LUIGI-CARLO-ZENOBIO-SALVATORE-MARIA: 1760, Sep. 8—1842, Mar. 15; b. Florence; eminent musical composer. He received his early musical training in Florence, under the Felici (father and son), P. Bizzari, and C. Castrucci. He afterward studied for a year at Bologna under Sarti, to whom he owed his thorough knowledge of counterpoint and fugue. He visited London, 1784, where he brought out two operas, *La Finta Principessa* and *Guilio Sabino*, and afterward settled in Paris for the remainder of his life, visiting Italy occasionally. His *Ifigenia in Aulide* appeared 1788; and 1791 his *Lodoiska*, which work first secured proper appreciation for his genius and effected a change in the whole character of the French school of composition. These operas were followed in succession by *Elisa*, *Medea*, *Les Deux Journées* (known also as *Die Wasserträger*), *Anacreon*, and *L'Hôtellerie Portugaise*. His latest opera, *Ali Baba*, was produced, after a long interval, 1833. Besides operas, C. wrote numerous masses, motets, and other sacred compositions of so great merit that Beethoven regarded him as the greatest living

master of sacred music; also quartets for the violin, viola, and violincello, and symphonies. It is worthy of remark that the richness of his instrumental music, formerly made a ground of objection, now appears moderate as contrasted with the prodigalities of the modern orchestra. His latest work, *Cours de Contrepoin et de Fugue*, appeared 1835. C. died at Paris where he was director of the Conservatoire, and his *Requiem*, the last of his masses, was performed at his funeral. See *Cherubini: Memorials illustrating his Life*, by Bellasis (Lond. 1874).

CHERUP, v. *chèr'üp* [from CHIRP, which see]: to twitter; to make a noise as a bird: N. a short, sharp noise. CHERUPPING, imp. CHERUPPED, pp. *üpt.*

CHERUSCI, *ke-rus'si*: German tribe mentioned first by Cæsar. They dwelt n. of the Silva Bacencis, or Hartz Forest, but the exact boundaries of their territory cannot be ascertained. They are memorable chiefly in connection with their great leader Arminius, or Hermann, who, having formed an alliance with other German tribes, attacked and annihilated the Roman legions under Varus, in the forest of Teutoburg, A.D. 9. After the death of Arminius, internal strifes broke out among the C., and Tacitus says that they were subjugated by the Chatti, a neighboring tribe. Notwithstanding this they again appear as the chief tribe in the military league of the Saxons about the end of the 3d c. In the beginning of the 4th c., they are included among the peoples who had leagued against Constantine, and toward the close of the same c. are still mentioned distinctly by Claudian.

CHERVIL, n. *chèr'vil* [AS. *cerfille*: mid. L. *chærophyl'lum*—from Gr. *chairo*, I rejoice; *phullon*, a leaf—from the smell of the leaves], (*Anthriscus Cerefolium*): umbelliferous plant, long cultivated as a pot-herb, and used especially in parts of the continent of Europe, in soups and for a garnish etc., in the same manner as parsley. It is a native of Europe. The leaves have a peculiar, somewhat sweetish, pleasantly aromatic smell and taste, by which the plant may be known from its congener *Anthriscus vulgaris* or *Scandix Anthriscus*, a poisonous weed, whose leaves have a disagreeable smell, and which is distinguished also by its hispid fruit. There is a variety of C. with large roots, for the sake of which it is cultivated.—The umbelliferous plant called VENUS' COMB, or SHEPHERD'S NEEDLE (*Scandix Pecten* or *S. Pecten Veneris*), native of Britain and of the continent of Europe, often found in cornfields, and remarkable for the appearance and large size of its fruit, and another species (*S. Australis*) which grows in the s. of Europe, have a taste and smell resembling C., and are used in the same way on the continent. SWEET C., or SWEET CICELY (*Myrrhis odorata*; *Scandix odorata* of the older botanists), native of the s. of Europe and of parts of Asia, common in the neighborhood of houses in Britain, although probably not a true native, is frequently cultivated in Germany under the name of Spanish C. or Anise C. In Scotland, the plant is commonly called *Myrrh* by the peasantry. Its smell is peculiarly attractive to bees;

CHESABLE—CHESHIRE.

and the insides of empty hives are sometimes rubbed with its leaves, to induce swarms to enter.—The species of *Chærophyllum*, coarse weeds, also are called chervil.

CHESABLE, n. *chĕz'ă-bl*, CHES'IBLE, n. *i-bl*, or CHAS'UBLE, n. *chăz'ū-bl*: a Rom. Cath. priest's vestment in the celebration of the mass: see CHASUBLE.

CHESAPEAKE BAY, *chĕs'a-pĕk*: largest inlet on the Atlantic coast of the United States; 200 m. long, and from 4 to 40 broad. Its entrance, 12 m. wide, has on the n., Cape Charles, lat. $37^{\circ} 3'$ n., and long $76^{\circ} 2'$ w.; and on the s., Cape Henry, lat. $36^{\circ} 56'$ n., and long. $76^{\circ} 4'$ w., both promontories being in Virginia. C. B. has numerous arms, which receive many navigable rivers, such as the Susquehanna and the Patapsco on the n., through Maryland; the James on the s.w., from Virginia; and the Potomac on the w., between these two states. Unlike the shallow sounds toward the s., this network of gulfs and estuaries, to say nothing of its noble feeders, affords depth of water for ships of any burden, virtually carrying the ocean up to the wharves of Baltimore and the arsenals of Washington.

CHESELDEN, *chĕs'el-den*, WILLIAM: 1688–1752, Apr. 11; b. Barrow-on-the-Hill, Leicestershire: English surgeon and anatomist. He commenced his medical studies at the age of 15, at 23 established himself as a lecturer on anatomy, and in the following year was elected a fellow of the Royal Soc. He was afterward appointed surgeon to St. Thomas's, St. George's, and Westminster hospitals, where he acquired great reputation as an operator. In this respect, few surgeons, if any, ever surpassed him. He died at Bath. C.'s principal works are: the *Anatomy of the Human Body* (1713), long a text-book on the subject in England; a *Treatise on the Operation for the Stone* (1723); and *Osteology, or Anatomy of the Bones* (1733). He also contributed several valuable papers to the Philosophical Transactions of the Royal Society.

CHESHIRE, *chĕsh'er*: maritime county in the w. of England, bounded n. by the river Mersey, and partly also by the Irish Sea; lat. $52^{\circ} 56'$ — $53^{\circ} 54'$ n., long. $1^{\circ} 47'$ — $3^{\circ} 11'$ w. Its greatest length, from n.e. to s.w. is 58 m.; greatest breadth, 32; area, 1,052 sq. m., of which only one-tenth is uncultivated; circuit, 200 m., of which 8 are coast. The surface forms an extensive, nearly level plain between the Derbyshire and Welsh mountains, well wooded, and studded with small lakes or meres, and occupied chiefly by grazing and dairy tracts, which are among the most important in England. This plain, comprising four-fifths of the surface, rests on New Red Sandstone, and is crossed near the middle, by a tract of high ground running s.w. from a promontory overlooking the Mersey, near the mouth of the Weaver, to Beeston castle rock, 366 ft. high. On the e. border of the county is a line of New Red Sandstone hills. In the n.e. is part of the Lancashire coal-field. In the e. are large tracts of peat, and much of the county is wet and rushy. The n.w. part of C. forms a hammer-headed pen-

CHESMEH—CHESNEY.

insula called Wirral, about eight m. broad, between the estuaries of the Dee and Mersey. Coal measures appear on the w. side of this peninsula, as well as on the w. border of the main part of the county. The chief rivers are the Dee, Mersey, and Weaver, which are navigable. The Dee skirts the county on the w. 55 m., and the Mersey on the n. for 40 m. The Weaver rises in the e. part of the county, and runs 40 m. w.n.w. into the Mersey. The county contains an almost unrivalled system of canals, including the celebrated Bridgewater canal, and is traversed by the main line of the London and Liverpool railway, and the Crewe Chester and Holyhead railway. The chief mineral products are rock-salt and coal. The rock-salt, discovered 1670, and mined by gunpowder, is found near the Weaver and its branches, especially near Northwich, at the depth of 28 to 48 yards, in two beds, the upper being 15 to 25 yards, and the lower above 40 yards thick, under a stratum of hard rock, 25 to 35 yards thick. The mines, one occupying 35 acres, when lighted up, resemble a fairy palace sparkling with gems and crystal. Much salt is made also from brine-springs 20 to 40 yards deep. Coal is worked in the n.e. part of the county. There are also lead (with cobalt) and copper-mines, and in almost every part of the county freestone, limestone, millstone, and marl are found. The climate is moist. The soil is mostly a clayey or sandy loam, with marl and peat, and very fertile. The soil and climate are well fitted for pasturing, dairy-farming, and cheese-making, the chief agricultural occupations. About 90,000 cows are kept in C., capable of producing about 15,000 tons of cheese. In the cattle-plague of 1865–66 upward of 70,000 cows perished, 36,000 of these being slaughtered as a preventive. There are extensive manufactures in the towns. Chief towns are Chester (the county-town), Macclesfield, Stockport, Congleton, Knutsford, and Birkenhead. The county of C. returns six members to parliament. C. has some Roman roads, tumuli, barrows, remains of religious houses, and many old castles and halls. The 12th Roman legion occupied Chester till the 3d c. Egbert, 828, added C. to the Anglo-Saxon kingdom of Mercia. William the Conqueror erected C. into a county palatine, under Hugh Lupus, with an independent parliament and eight barons. Henry VIII. subordinated it to the English crown; but C. did not send representatives to the English parliament till 1549, and the separate jurisdiction ceased entirely only in 1831: see PALATINE. Pop. (1881) 644,037; (1901) 601,070.

CHESMEH, *chĕs'mĕh*: a bay near Smyrna. It was there that the Russian fleet, under Admiral Spiridoff, having defeated the Turks, off Chios, completed the victory by burning their enemy's vessels, 1770, July 5.

CHESNEY, *chĕs'nī*, CHARLES CORNWALLIS: 1826, Sep. 29—1876, Mar. 19: military historian. The son of a capt. of artillery, he was educated at Tiverton, Exeter, and Woolwich, England; entered the royal engineers as 2d lieut. 1845; was stationed in New Zealand during the

CHESNIUS.

Crimean war, and though never in active service, found a new field of usefulness and distinction. Military history being made part of the course of instruction at Sandhurst, he was appointed to that chair 1858, and transferred 1864 to the Staff College. Here he delivered the *Waterloo Lectures*, which attracted much attention. He returned to regimental duty 1868; was a member of the royal commission of military education 1868-69; was sent to the continent on a special mission 1871, and reported to govt. on the siege operations of the Franco-Prussian war; rose to brevet lieut.col., became commanding royal engineer of the London dist., and died of overwork. Besides the book which chiefly made his reputation, he wrote *Recent Campaigns in Va. and Md.* (1863, enlarged 1865; said to be the fairest book on Amer. military affairs by an Englishman); *Military Resources of Prussia and France, and Recent Changes in the Art of War* (1870); and *Essays in Modern Military Biography*, chiefly from the *Edinburgh Review* (1874). Far more widely read than any of these was his brilliant anonymous pamphlet, *The Battle of Dorking* (1871), describing an imaginary invasion of England by Prussia.

CHESNIUS, or DUCHENIUS: see DUCHESNE.

CHESS.

CHESS, n. *ch  s* [F. *ch  sse*, the thing or part within which another is covered or engraved]: in *Scot.*, the frame of wood for a window; the iron frame which surrounds a form of types—also spelled CHASE. CHESSES, n. plu. *ch  s  s  s*, in *mil.*, three fir planks, fastened underneath by cleats, used in pontooning.

CHESS, n. *ch  s* [F. *  ch  c*; OF. *eschac*; It. *scacco*; Sp. *vaque*; Ger. *schach*—from the cry of check—from Pers. *sch  ch* or *sh  h*, a king]: game of skill played on a board divided into 64 squares, with king, queen, castles, knights, bishops, and pawns or soldiers. CHESS-BOARD, the board used in the game of chess, of whose 64 squares 32 are of a light, and 32 of a dark color: see CHECK. The origin of chess, the most purely intellectual of all games of skill, has been much disputed; but it is now considered certain that, under the Sanskrit name of *Chaturanga*, a game, essentially the same as modern C., was played in Hindustan nearly 5,000 years ago. In its gradual diffusion through the world in succeeding ages, the game has undergone many alterations and modifications, both in nature and in name; but marked traces of its early Asiatic origin and descent are still discerned by the learned in its nomenclature and other characteristics. From Hindustan C. spread into Persia, and thence into Arabia. The Arabs appear to have introduced the game into Spain and the rest of w. Europe in the 8th c.; and in England chess-play seems to have been known prior to the Norman Conquest. Into Constantinople, and probably some other cities of e. Europe, the game may have been imported from Persia at a period earlier than its Moorish conveyance into Spain.

The original Hindu game was played on a board of 64 squares, as now, but by *four persons*, two being allied against two, as in whist. Hence the name *Chaturanga*, from *chatur*, ‘four,’ and *anga*, ‘a member’ or ‘component part.’ The name *Shatranj*, used by the Persians and Arabs, is a corruption of the Sanskrit. The English, French, and other European names are derived from the Persian term *shah*, ‘king.’ *Check*, the warning when the king is in danger, is but another form of *shah*; in fact, ‘king’ is sometimes used for ‘check,’ and in German *schach* is the name both of the game and the term of warning. The term *rook* is from the Skr. *roka*, Pers. *ruk  *, meaning a ship or chariot; *pawn* is said to be from *peon*, an attendant or foot-soldier.

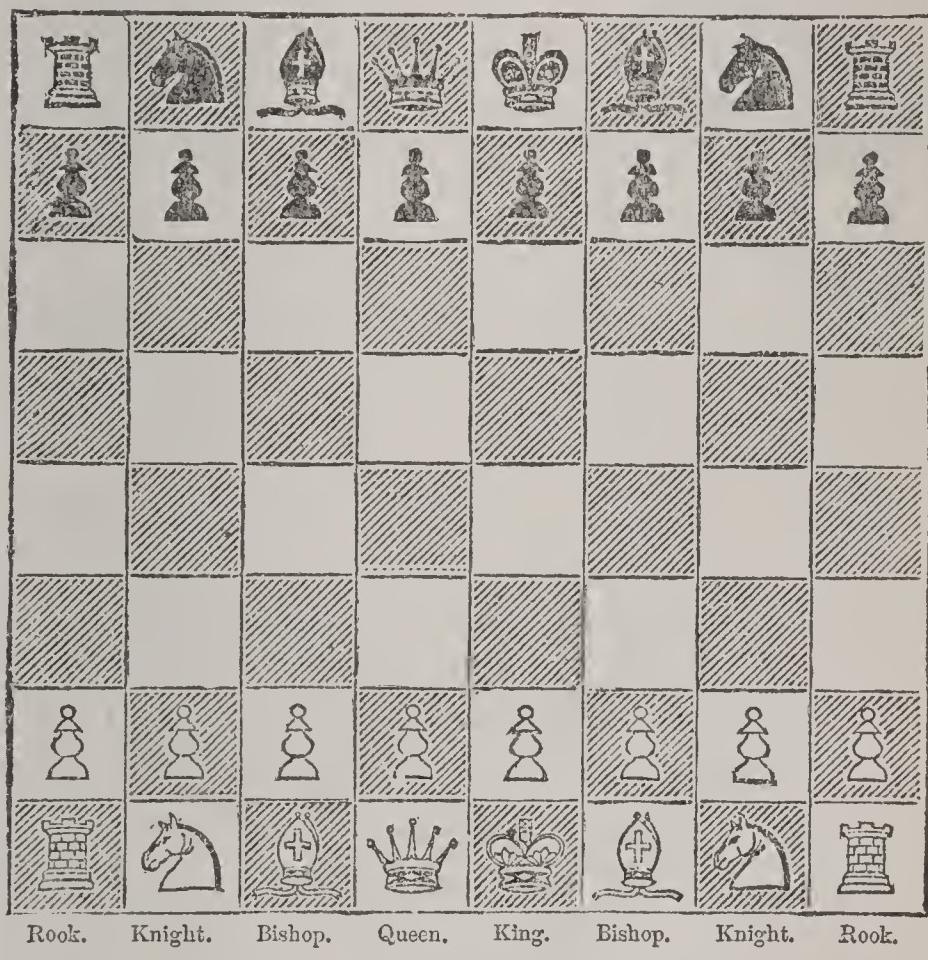
The books written upon C. would form a library. Of works on the antiquities of the subject are Dr. D. Forbes’s *History of Chess* (Lond. 1860). The best modern practical works on the art of chess-play are the *Chess-Player’s Handbook*, C. *Praxis*, and *Chess: Theory and Practice*, by Staunton; Morphy’s *Games at C.*, edited by Lowenthal; Jaenisch’s *Treatise on the Openings*, translated by Walker; and Horwitz and Kling’s *Collection of End-games*. The subject is also largely treated in Chambers’s *Information for the People*, ‘In-door Amusements.’

The game of C. is played upon a square board marked out into 64 square divisions which are colored alternately

CHESS.

black (or some dark color) and white, in order the more clearly to determine and denote the respective movements of the several pieces. In placing the board for play each player must always have a *white* corner square at his right hand. There are two sets of pieces of opposite colors of sixteen men each, and of various powers according to their rank. These sets of men are arrayed opposite each other, and attack, defend, and capture, like hostile armies. The accompanying diagram will best explain the name, form, and place of each man at the commencement of the game.

BLACK.



WHITE.

The superior officers occupying the first row on each side are called *pieces*; the inferior men, all alike, standing on the row immediately in front of the pieces, are called *pawns*. Their moves and powers with the peculiar terms used in C., are as follows:

A *pawn*, at his *first* move, may advance either one or two squares, straightforward; but after having once moved he can advance only a single square at a time. In capturing * an adverse piece, however, a pawn moves forward to the next square diagonally either right or left; the pawn never moves backward. On arriving at an eighth square,

* Taking is always performed by lifting the captured man from the board and placing the captor on his square. The pawn is the only man whose mode of taking differs from his ordinary move.

CHESS.

or the extreme line of the board, a pawn may be exchanged for any piece that his owner chooses to call for, except a king; so that a player may possibly have several queens on the board at once. If a pawn, on moving two squares at its first move, pass by an adverse pawn which has arrived at the fifth line, the advanced adverse pawn may take the other *in passing* in exactly the same manner as if the latter had moved but one square; but the adverse pawn is not compelled to take.

A bishop moves any number of squares diagonally, but diagonally only; therefore a bishop can never change the color of his square.

A knight moves two squares so as always to change the color—that is, his move is one square forward or backward with one diagonally. On account of this crooked movement he can leap over or between any surrounding pieces; and therefore a knight's check—unless he can be taken—always compels the king to move.

The rook, or castle, moves any number of squares forward, backward, or sidewise, but not diagonally.

The queen is by far the most powerful of the pieces and moves over any number of squares, either in straight lines or diagonals, forward, backward, or sidewise; so that her action is a union of that of the rook and bishop. At starting the queen always stands on a square of her own color—white queen on white squares.

The king is the most important piece on the board, as the game depends upon his safety. He moves only one square at once, in any direction, except when he *castles*—a term to be explained presently. The king cannot be taken; but when any other piece attacks him he is said to be in *check*, and must either move out of check or interpose some one of his subjects, unless the checking-piece can be captured. When there is no means of rescuing the king from check he is said to be *checkmated*, and the game is over. Of course the two kings can never meet as they would be in check to each other. *Double-check* is when a piece by being moved not only gives check itself, but also discovers a previously masked attack from another.

Castling is a privilege allowed to the king once in a game. The move is performed either with the king's rook or queen's rook—in the former case the king is moved to the king's knight's square, and the king's rook is placed on the king's bishop's square; in the latter case the king is played to the queen's bishop's square, and the queen's rook is played to the queen's square. But the king cannot castle after having once moved, nor at a moment when he is actually in check, nor with a rook that has moved, nor when he passes over a square attacked or checked by an adverse piece, nor when any piece stands between him and the rook with which he would castle, nor when in the act of castling either the king or rook would have to capture an adverse piece.

A *drawn* game results from neither player being able to

CHESS.

checkmate the other; thus, a king left alone on each side must of course produce a draw, as do also a king with a bishop, or a knight, against a king.

Stalemate, or the not being able to move either the king or any other piece, also constitutes a drawn game.

Odds is a term applied to the advantage which a stronger player should give to a weaker; thus, the removal of a rook or knight from the better player's forces may be fair odds; or if the players are more nearly matched the one may give a pawn. When the odds of a pawn are given it is always understood to be the king's bishop's pawn.

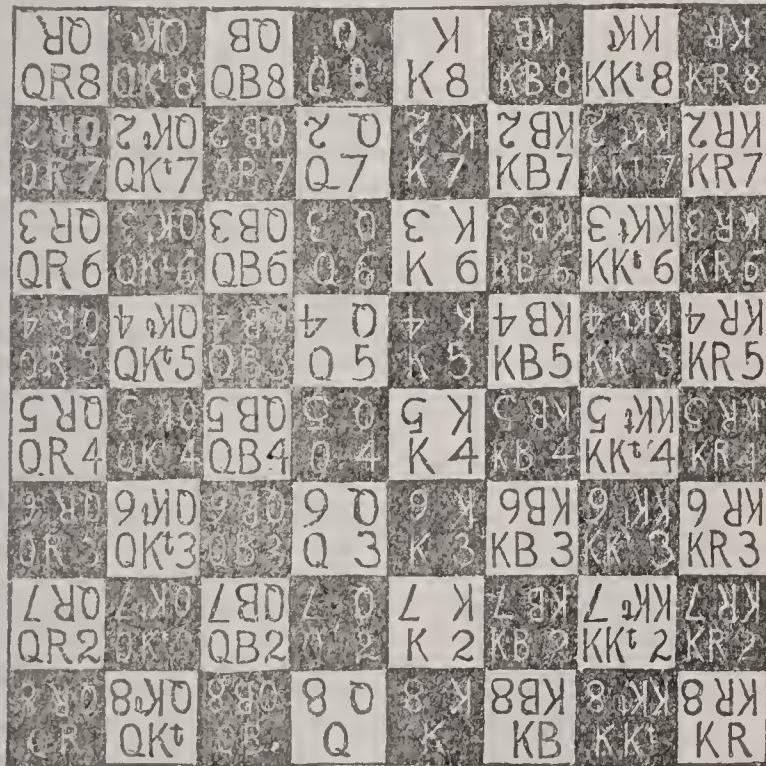
Gambit is a technical word implying the sacrifice of a pawn early in the game, for the purpose of taking up an attacking position with the pieces.

Supposing the worth of a pawn to be represented by unity, the following is approximately an average estimate of the comparative value of the pieces : Pawn 1, bishop 3, knight 3, king 4, rook 5, queen 9.

The chess-men being placed, the players begin the engagement by moving alternately ; each aiming to gain a numerical superiority by capturing his opponent's men, as well as such advantages of position as may conduce to victory.

The rows of squares running straight up and down the board are called *files*, those running from side to side are called *lines*, and those running obliquely across are termed *diagonals*.

BLACK.



WHITE.

The accompanying diagram will show at once to the learner how each square is named ; and by its aid he will speedily be enabled either to play over printed games, or to

CHESS.

record his own. The playing over the following short game will serve him as a little initiatory practice:

WHITE.

1. King's Pawn two.
2. King's Bishop to Queen's Bishop's 4th.
3. Queen to King's Rook's 5th.
4. Queen takes King's Bishop's Pawn, giving Black checkmate.

BLACK.

1. King's Pawn two.
2. King's Bishop to Q Bp's 4th.
3. King's Knight to K Bp's 3d.

The foregoing brief mode of giving a checkmate is called the *Scholar's mate*, and is often practiced upon young and unwary players. Any contractions used, such as 'K' for king, 'B' for bishop, etc., are readily understood by the use of the diagrams.

In the conduct of the game, and in the practice of C., the following rules, precepts, and hints will be found very generally useful :

Play forth your minor pieces early, and castle your king in good time. You may sometimes delay castling with advantage, but not often.

Do not expect to be able to establish an enduring attack with half your forces at home.

Seek to let your style of play be attacking ; and remember the gaining or losing of time in your measures is the element of winning or losing the game.

Never touch a piece without moving it, nor suffer yourself or your opponent to infringe any other of the laws of the game.

You will find, when first player, that the opening, springing from your playing 1st king's pawn two, and then your king's knight to the bishop's 3d, is one of the best that you can adopt ; but do not adhere to any one opening only.

If you wish to adopt a purely defensive opening, you may play 1st king's pawn one, and follow up with Q P 2, and Q B P 2.

Next to playing with good players, nothing will conduce to improvement more than looking on at two expert players whilst they play. Lacking these advantages it is best to play over openings, and actual games from books or journals.

To prevent blunders and oversights always endeavour to perceive the motive of your adversary's move before you play ; and look often round the board to see that you are not losing sight of any better move than the one which you intended, or that you are not suffering yourself to be tempted by a bait.

When an onlooker never interfere by word or motion.

Always endeavor to keep good temper under a loss or defeat, and to bear your adversary's faults with a good grace.

THE LAWS OF CHESS.—The laws of C. are at present in a somewhat unsettled, unsatisfactory condition ; but the following are the principal prevailing regulations of the game :

1. If any error have been committed in the placing of the

CHESS.

board or men, either player may claim that the game shall be finished as it stands, after four moves have been completed on each side, but not else.

2. A move once made, by your having moved a piece and left hold of it, cannot be retracted.

3. If you touch a piece you must play that piece ; but as long as you retain your hold you can play it where you like. If you touch a piece that cannot move, your opponent may compel you to play your king, unless the king be unable to move. When you touch your pieces for the mere purpose of adjusting them you are bound to say so.

4. If you make a false move your opponent may, at his pleasure, either cause you to retract it and move your king, or he may claim that the false move shall stand, or that you shall make a legal move with the same piece.

5. If you touch one of your opponent's men he may compel you to take that man ; or, if that be impossible, to move your king, provided he can move without going into check.

6. If, on the king being checked, due notice is not given the player whose king is attacked is not bound to notice it.

7. In every fresh game, except when one is drawn, the first move alternates.

8. Drawn games, counting as no games at all, the player who had the first move in a drawn game is also entitled to it in the next. (This absurd regulation is fast becoming obsolete ; and it is now a common agreement, in playing a series of games, that the move shall invariably alternate.)

9. A player who gives the odds of a piece, is entitled to the first move.

10. The time for consideration of a move is not limited ; but a player leaving a game unfinished, without his opponent's permission, loses such game.

11. When at the end of a game one player is left with just sufficient superiority of force to win—such as a king and rook against king, or king and two bishops against king, or king, knight, and bishop against king—he who has the greater force must give checkmate within 50 moves on each side, or else the game is adjudged drawn. This law is framed to prevent unskilful players from wearying their opponents by persisting in the attempt to accomplish what they are too untutored to effect ; and it is perfectly just, since the allotted number of moves is amply large enough and to spare.

12. In case of any dispute about the laws, both players are to agree as to an umpire, whose decision is to be considered final.

As there is no branch of chess-study better calculated to advance the skill of a learner than the attentively playing over recorded games between first-rate players, the following example is given of a game played blindfold, simultaneously with five other games, by the celebrated American chess-player, Paul Morphy. This gentleman visited England and the continent of Europe 1858, and in his contests with the best players fairly carried all before him, so that he soon ranked as the greatest chess-player living.

CHESS—CHEST.

White—Mr. Morphy.

Black—Mr. C—

1. P to K 4.
2. K Kt to B 3.
3. K B to Q B 4.
4. P to Q Kt 4.
5. P to Q B 3.
6. P to Q 4.
7. Castles.
8. Q B to R 3.
9. Q to Q Kt 3.
10. Q Kt takes P.
11. Q takes B.
12. Q R to Q.
13. P to K R 3.
14. Kt takes Kt.
15. B to K 2.
16. P to K B 4.
17. K B to B 4, ch.
18. Q B to Kt 2.
19. Q R to K.
20. P takes P.
21. R to K 8.
22. Q takes R.
23. Q takes Kt P, ch.
24. P to K B 6.
25. K takes Q.
26. K takes B.
27. R to K Kt, and wins.

1. P to K 4.
2. Q Kt to B 3.
3. K B to Q B 4.
4. B takes Kt P.
5. B to Q R 4.
6. P takes P.
7. P takes P.
8. P to Q 3.
9. K Kt to R 3.
10. K B takes Kt.
11. Castles.
12. Kt to K Kt 5.
13. K Kt to K 4.
14. Kt takes Kt.
15. P to K B 4.
16. Kt to Q B 3.
17. K to R.
18. Q to K 2.
19. R to B 3.
20. Q to K B squ.
21. Q takes R.
22. Q to K 2.
23. Q takes Q.
24. Q takes Kt P, ch.
25. B takes P, ch.
26. P to K R 4.

CHESS, or CHEAT (*Bromus secalinus*): plant of the order *Graminaceæ*, and one of the species of Brome Grass. It is a weed which infests wheat fields, where it is with difficulty separated from the wheat. It was at one time supposed valuable, and its cultivation recommended; hence probably its wide dissemination. A rural superstition holds that the wheat is transmuted into chess.

CHESSIL-BANK, *chĕs'sl-bănk* [Ger. *kiesel*, a pebble]: the shifting pebble-beach extending from Portland to Abbotsbury, on the southern coast of England.

CHESSYLITE, n. *chĕs'i-lit* [from *Chessy*, near Lyons, where abundant]: a mineral of a nearly azure-blue color, also called azurite or blue carbonate of copper.

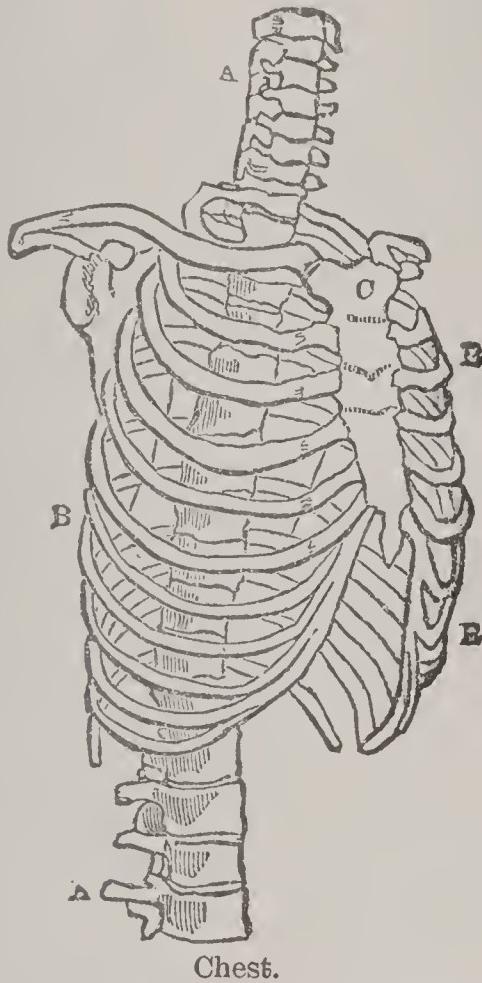
CHEST, n. *chĕst* [AS. *cist*: Ger. *kasten*: L. *cista*: Gr. *kiste*]: a large box; the cavity of the breast or thorax; a certain quantity of goods, as tea: V. to lay in a chest; to hoard. CHEST'ING, imp. CHEST'ED, pp.: ADJ. having a chest; placed in a chest. CHEST OF DRAWERS, a case of movable boxes called *drawers*.

CHEST, or THO'RAX, in Anatomy: the part of the body which lies beneath the neck and above the abdomen (q.v.), constituting the uppermost of the two divisions of the trunk, or that which contains the heart and lungs, and is bounded externally by the ribs. The C. is somewhat conical in form, the broad or lower end of the cone being shut in by the diaphragm, a large muscular partition which projects upward from the lower ribs, being convex toward the C., and concave toward the abdomen. In respiration (q.v.) the diaphragm descends by its own muscular contraction, while at the same time the ribs are drawn upward and outward by the intercostal muscles. The cavity of the C. is thus enlarged, the lungs are expanded, and air is drawn into them through the trachea or windpipe and bronchi: see LUNGS. The

CHEST.

combination of bone, cartilage, muscle, and tendon entering into the composition of the C. is such as to permit of expansion-movement to the extent required, and yet to guard against over-expansion, which would be fatal to the delicate textures within. The bones of the C. are at the same time a powerful protection against external injury.

The structures forming the walls of the C. are: 1. The backbone or spinal column, AA, divided into 24 vertebrae, 12 of which, called the dorsal vertebrae, form the thoracic



Chest.

portion. 2. Twelve ribs, B, B, B, attached to the transverse processes or projecting portions of the dorsal vertebrae, and ending in front in the costal cartilages, by which the ribs are connected with.—3. The sternum or breast-bone, C, which occupies the middle line. 4. The diaphragm (q.v.): see also SKELETON.

The contents of the C. are the heart, the great arteries and veins, the lungs, the trachea or windpipe, the bronchi or branches of the trachea leading to the lungs, the esophagus or gullet, and the thoracic duct (q.v.), or general terminus of the lymphatic system of vessels, by which the chyle and lymph are discharged into the blood. The very great importance of these parts to life, and their great liability to deranged action, renders the C. the seat of a large proportion of the diseases which afflict humanity, and especially of those which end in death. Indeed, of the three organs which the great physiologist, Bichat, called the 'tripod of life'—viz, the brain, heart, and lungs—the C.

CHEST.

contains two; hence its condition in almost all diseases, and especially in diseases tending to be fatal, is an object of the utmost solicitude to the physician.

The diseases of the C. depend in some cases on alterations in its form, as by rickets (q.v.) and other diseases affecting the bones in the early childhood or in youth, as by too tight lacing in girls. The lungs and air-tubes are subject to a great variety of diseases, among which the principal are consumption or phthisis pulmonalis, pneumonia, pleurisy, bronchitis, or pulmonary catarrh. The heart is subject to pericarditis, endocarditis, and chronic organic disease of the valves, as well as to enlargement (hypertrophy), dilatation, and degeneratio[n] of its muscular texture. The aorta, or great artery, is often affected with degeneration of its walls, and occasionally with aneurism. The great veins are liable to over-distention, and to obstruction by tumors or by coagulation of the contained blood. The thoracic duct is also sometimes obstructed by external pressure; and the esophagus has a number of diseases usually described in connection with the alimentary canal. For most of the diseases here referred to, see either their respective titles, or under LUNGS and HEART.

The examination of the C. by physicians is now conducted not only by an investigation of the symptoms or obvious characters of the disease, but by a minute and elaborate examination into the physical condition of the contained organs by means of auscultation (q.v.), percussion (q.v.), measurement, etc. The application of these methods is complicated and technical; but for their results see the titles above referred to. The name of Laennec (q.v.) will be long remembered in medicine as that of a great original observer, who has contributed more than any other to the progress of knowledge in this department.

CHEST, MILITARY: technical name for the money and negotiable securities carried with an army, and intended to defray the current expenses.

CHEST, NAVAL, in the Brit. Navy: name given to certain funds, maintained for the benefit of seamen belonging to the royal navy. A fund, called the *Chest at Chatham*, was suggested so long ago as the days of Drake and Hawkins, for the relief of wounded and superannuated seamen. In 1590, all seafaring men in Queen Elizabeth's service consented to a stoppage out of their pay of 2d. to 6d. per month, to support this fund. The money was not in those days, as it would be now, put out to interest; it was kept in a C.; hence the name given to the fund itself. During the 18th c., the system became organized in a better manner; but still the fund retained the name of C.; insomuch that when the office was removed from Chatham to Greenwich, 1803, it became the *Chest at Greenwich*. Handsome gifts are occasionally made to the fund by individuals. Disabled sailors receive a present sum of money, if not deprived of the power of earning a living; but if their injuries are more permanent, they receive a pension from the C., for one year, or for several years, or for life, paid half-yearly.

CHESTER.

CHESTER: city of Delaware co., Penn., on the Delaware river, and on the Philadelphia Wilmington and Baltimore, the Baltimore and Ohio, and the Philadelphia and Reading railroads; 15 m. w.s.w. of Philadelphia. It is the oldest town in Penn., founded by the Swedes 1643, and originally called Upland; here Penn's provisional assembly was held, 1682. It was chartered 1701, and was the capital of C. co. till Delaware co. was set off, 1789. Its chief growth has been of late years; it was incorporated as a city 1866. C. has large ship-yards, notably that of the late John Roaeh; rolling mills and steel casting works, manufactories of cotton and woolen goods, machinery, carriages, etc.; four banks, six newspapers, a number of schools and churches, and an academy. South C. has a rolling mill, blast furnace, tube works, steel easting works, oil refineries, brass foundry, two newspapers, and a pop. (1888) of 7,000. In Upland are the Crozier (Bapt.) Theol. Seminary and several manufactories. Pop. of C. (1850) 1,667; (1870) 9,485; (1880) 14,997; (1900) 33,988.

CHESTER, *chēs'tér*: ancient and episcopal city, municipal and parliamentary borough, and river-port, capital of Cheshire, England, on the right bank of the Dee, 22 m. from the mouth of its estuary, 16 m. s.e. of Liverpool. It stands on a rocky sandstone height, and is mostly inclosed in an oblong quadrangle of ancient walls, seven or eight ft. thick, nearly 2 m. in circuit, and with four gates, and now forming a promenade with parapets, where two persons can walk abreast. The two main streets cross each other at right angles, and were cut out of the rock by the Romans four to ten ft. below the level of the houses. The houses in these streets are curiously arranged: the front parts of their second stories, as far back as 16 ft., form a continuous paved promenade or covered gallery, open in front where there are pillars and steps up from the street below, with private houses above, inferior shops and warehouses below, and the chief shops of the town within. This arrangement, called the 'rows,' together with the ancient walls, and the half-timbered construction of many of the houses, with quaintly carved ornamented gables of the 16th c., render C. perhaps the most picturesque city in England. C. cathedral is an irregular massive structure of crumbling sandstone, 375 by 200 ft., with a tower of 127 ft. It was formerly the church of the abbey of St. Werburgh; for 650 years was one of the richest in England. St. John's Church, now partially in ruins, is supposed to have been founded by Ethelred 698. The Dee is crossed by a superb stone arch of 200 ft. span. Suburbs of villas have recently arisen outside the walls; and a public park was opened 1867. The C. railway station is the centre of several important railways. C. has manufaetures of lead, iron-foundries, chemical works, and an iron-ship-building yard. The chief exports are cheese, copper, cast-iron, and coal. C. has many charitable and religious institutions, and is the abode of many wealthy families. This city is a county in itself. Works going on in 1885, for improv-

CHESTERFIELD.

ing the navigation of the Dee, are expected greatly to increase the commerce of Chester.

C. was *Devana Castra*, or *Colonia Devana*, an important Roman station, and has yielded many Roman remains—as masonry, coins, inscriptions, fibulæ, altars, a hypocaust, and a statue of Pallas. Not till 828 was C. taken by the Saxons from the Britons. Its strength made it a refuge against the descents of the Danes and Northmen, but the Danes took it 894. Ethelfrida retook it, 904, and rebuilt the walls. From the Norman conquest to the time of Henry III., the earls of Chester had their own courts and parliaments at C., with eight subfeudatories and the superiors of the great religious houses, Cheshire being then a county palatine. Henry III. made his eldest son Earl of Chester, a title held since by the Prince of Wales. Llewelyn ravaged C. 1255. The 25 famous C. mysteries or religious plays by Randle, a monk (1250–60), were acted in the church. After a long siege, the parliamentary forces defeated those of Charles I. at C., and took the city. Pearson and Porteus were bishops of Chester. Trinity Church contains the remains of Matthew Henry, the biblical commentator. The commerce of C. has steadily declined since the rise of Liverpool. Pop. (1881) 36,788; (1901) 36,281.

CHESTERFIELD, *chĕs-tĕr-fĕld*: municipal borough in Derbyshire, near the Hipper and Rother rivulets, 24 m. n.n.e. of Derby, by rail. There are manufactures of leather, silk, lace, earthenware, and machinery; and there are several blasting-furnaces in the neighborhood. The manufactures are increasing rapidly, and the minerals in the neighborhood, including coal, iron, potters' and brick clay, slates, and lead, are being greatly developed. Trade is facilitated by a canal connecting C. with the Trent, and by the main line of the Midland railway. Pop. (1851) 7,100; (1871) 11,427; (1881) 12,221. .

CHESTERFIELD, Earl of (PHILIP DORMER STANHOPE): 1694, Sep. 22—1773, Mar. 24; b. London; eldest son of the third Earl of C.: English statesman and author. He studied at Cambridge, 1714 made the tour of Europe, and the following year was appointed a gentleman of the bedchamber to the Prince of Wales. About the same time, he was elected M.P. for St. Germains, Cornwall. In 1726, on his father's death, he became Earl of C., and in 1727 was sworn a privy councilor. In 1728, he was appointed ambassador extraordinary to Holland, and in 1730 was made a knight of the Garter and lord steward of the household, but soon resigned that office. An eloquent and frequent speaker, he was active in all important business in the house of lords, and was for several years the strenuous opponent of Sir Robert Walpole, then premier. In 1744, he connected himself with the administration, and in 1745 was reappointed ambassador to the Hague, but was soon nominated lord-lieut. of Ireland, where he rendered himself exceedingly popular. He became one of the principal secretaries of state, 1746, Oct., but two years later, declining health caused him to resign office, and in 1752 he was

CHESTERFIELD INLET—CHESTNUT.

seized with deafness. Distinguished by brilliancy of wit, polished grace of manners, and elegance of conversation, he lived in intimacy with Pope, Swift, Bolingbroke, and other eminent men of the day. Dr. Johnson, whose dictionary, on its appearance, he affected to recommend, called him ‘a wit among lords and a lord among wits.’ He wrote several papers, on temporary subjects, in *The Craftsman*, *The World*, periodicals of the time; but he is now best known by his *Letters to his Son*, Philip Dormer, written for the improvement of his manners. These letters have been often republished, and they afford a good idea of the mental and moral calibre of the author, whom they show as a man of high culture and fine taste in social matters, not troubling himself with any deep or spiritual views of human life.

CHESTERFIELD INLET: long and narrow gulf, penetrating to the w. from the n.w. of Hudson’s Bay; extreme dimensions, 250 and 25 m.; lat. and long. of its mouth, $63^{\circ} 30' \text{ n.}$, and $90^{\circ} 40' \text{ w.}$ C. I. is studded nearly throughout with islands.

CHESTNUT, or **CHESNUT**, n. *chēs’nūt* [OF. *chastagne* and *chastaigne*: F. *châtaigne*—from L. *castan’ēū*: Gr. *kas’tanon*, a chestnut—from *Kas’tana* in Pontus, where abounding: Dut. *kastanie*: Ger. *kesten*], (*Castanea*): genus of plants of the nat. ord. *Cupuliferae*, closely allied to the beech (*Fagus*), and distinguished from it by long male catkins, longitudinally set with groups of flowers, a 5-8-celled ovary, and compressed rounded nuts. The name is derived



Branchlet, Leaves and Catkins of Sweet Chestnut.

from the town of Kastana, in Pontus, Asia Minor. The COMMON C., SPANISH C., or SWEET C. (*C. vulgaris*), is said to have been brought from Asia Minor first to Sardinia, and thence to have gradually extended over the s. of Europe, where it has long been naturalized, and forms extensive woods. It is an ornamental, stately, or, in exposed situations, a very spreading tree, of great size and longevity; the still surviving C. of Totworth in England was known as a boundary-mark in the reign of King John. A celebrated C. tree on Mount Etna measured 204 ft., in cir-

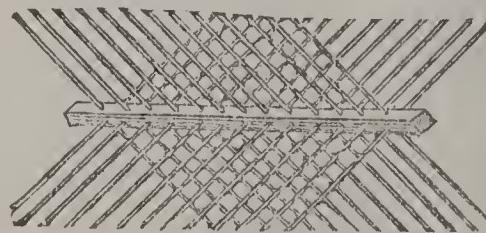
CHESUNCOOK LAKE—CHEVAL-DE-FRISE.

cumference of trunk. The C. has oblongo-lanceolate, acuminate, serrated, smooth leaves. The timber is durable and hard, and is used in house-building, for furniture, and for many other purposes. The timber of the C. so much resembles that of the oak, as in old buildings to be distinguished with difficulty. The bark is used for tanning, but is worth only about half the price of oak-bark. Young C. trees are much esteemed for hop and espalier poles. The C. thrives as a timber tree even in Scotland, although it does not generally ripen its fruit. In Devonshire, and some other parts of England, it is planted for its nuts. It thrives through all the middle latitudes of Germany but dislikes a damp foggy atmosphere. It prefers a dry, light soil, and, is thrifty only where there is a dry sub-soil. The nuts are generally two in each husk. They form a principal part of the food of the poor in the s. of Europe, being used either roasted or boiled, and often ground into flour, and made into a kind of bread. They contain 15 per cent. of sugar, and by pressure yield a sugary juice, which readily undergoes the vinous fermentation, and from which a crumb-like kind of sugar may be obtained. The best kinds of chestnuts are called by the French *Marrons*. When cultivated for nuts the C. is usually grafted, by which means the better varieties are secured. Other species of C. also bear eatable fruits; those of the AMERICAN C. (*C. Americana*), a tree much resembling the common C., and of the DWARF C., or CHINCAPIN (*C. pumila*), a low tree, or more generally a shrub of 7-8 ft. high, are used in America. The fruit of the dwarf C. is of the size of a common hazel nut; the nut is convex on both sides. The plant reaches its s. limit on the banks of the Delaware. A number of species are natives of the east. The inhabitants of the mountains of Java eat the fruit of the SILVERY C. (*C. argentea*), and the TUNGURRUT (*C. Tungurrut*), boiled or roasted, like the common chestnut. Both of these are large trees, the Tungurrut reaching a height of 150 ft. The HORSE C. (q.v.) is entirely different from the true chestnut.

CHESUNCOOK LAKE, *ché-sún'kúk*: an expansion of the Penobscot river, in Piscataquis co., Me.: lat. 45° 45' to 46° 5' n., long. 69° 30' w. It is 24 m. long and 2 to 4 m. wide.

CHETAH, n. *ché'tā*: see CHEETAH.

CHEVAL-DE-FRISE, n. *shé-vál'-dē-frēz'*, CHEVAUX-DE-FRISE', n. plu. *shé-vō'*- [F. *cherval*, a horse; *frise*, a corruption of *Friesland*—lit., a horse of *Friesland*]: in fortification, a hastily-constructed substitute for a regular abatis, to stay the progress of an advancing enemy. It may



Cheval-de-Frise.

CHEVAL-GLASS—CHEVALIER.

be constructed in any way of wood or iron, provided it presents an array of sharp or ragged points toward the enemy. Sometimes it is made of barrels or eentres of timber, with spears four or six ft. long springing out from all sides, in such a way as to constitute both a support and a defense. Among the *materiel* of an army under the care of the engineers, are sometimes comprised chevaux-de-frise formed of cylindrical iron barrels, about 6 ft. long, each having 12 holes to receive as many spears; the spears can be packed away in the barrel, when not in use. Each such piece constitutes a *cheval*; and many such, ranged end to end, form *chevaux*, to be used in ditches around a fortification, on the berme beneath the parapet, behind the glacis, across a breach in the rampart, or in any spot where a check to the storming party is needed. At Badajoz, during the Peninsular war, great service was rendered by chevaux-de-frise formed of sword-blades fixed into beams of wood. The name is said to have been a jocular appellation derived from 'Friesland horse,' because first used by the peasantry of Friesland against cavalry in their defensive war. The name is given also to an arrangement of iron spikes to prevent persons climbing over walls, etc. EN CHEVAL, *äng shē-väl'*, applied to a body of troops when it stretches at right angles across a road. A CHEVAL, placed so as to command two roads, or the space between two sides.

CHEVAL-GLASS, *shē-väl'glüs* [F. *cheval*, a horse]: a looking-glass, showing the full-length figure; a dressing-glass—so named from its size.

CHEVALIER, n. *shēv'ä-lär'* [F.—from *cheval*, a horse—from mid. L. *caballarius*—from L. *cabal'lus*, a horse]: a horseman; a knight; a gallant knight: in heraldry, a horseman armed at all points: see BANNERET: CHIVALRY.

CHEVALIER, *shéh-vá-le-ä'*, or *shvá-le-ä'*, MICHEL: 1806, Jan. 13—1879, Nov. 28; b. Limoges: French economist. At the age of 18 he was admitted a pupil of the Polytechnic School; thence he went to the school of mines, and some days before the revolution of July, he was attached as an engineer to the dept. du Nord. Led away by the theories of the St. Simonians, he was for two years editor of the *Globe*, organ of that sect. Joining the schism of M. Enfantin, he took an active part in the compilation of the *Livre Nouveau*, the standard of their doctrines, and in 1832 suffered six months' imprisonment, on account of his free speculations in regard to religious and social questions, which were regarded an outrage on public morals. On his liberation he at once retracted all that he had written in the *Globe* contrary to Christianity, and against marriage, and obtained from M. Thiers a special mission to the United States, to inquire into the systems of water and railway communication there. The results were published in his *Letters from North America* (1836, 2 vols. 8vo). After a visit to England he issued a work entitled *Material Interests in France: Public Works, Roads, Canals, Railways* (1838, 8vo). He was named, successively, chevalier of the Legion of

CHEVERIL—CHEVERUS.

Honor, councilor of state (1838), a member of the superior council of commerce, and of the royal council of the university; and, in 1840, prof. of political economy in the College of France. In 1840, he was re-established in the corps of mines as engineer of the first-class; and in 1846, elected a member of the chamber of deputies. Under the republic he lost his various employments. He published, 1848, *Letters on the Organization of Labor and the Question of the Laborers*; and, after the *coup d'état* of Dec. 2, was restored to his professorship, and named councilor of state. In 1860, C. assisted Mr. Cobden in carrying into effect the commercial treaty between France and England, and was created a senator. He became a grand officer of the Legion of Honor, 1861. C. wrote also *Political Economy* (1842–50); *Probable Fall of the Value of Gold* (1859—translated by Cobden); *Mexico, Ancient and Modern* (1863), etc.

CHEVERIL, v. *shévr'ē-rl* [F. *chevreuil*, a roebuck: OF. *chevrel*, a kid]: in *OE.*, a kid; kid-leather. **CHEVERIL CONSCIENCE**, a conscience that will stretch; an elastic conscience.

CHEVERUS, *shévr'ē-rūs*, JEAN LOUIS ANNE MADELEINE LEFEBVRE DE, D.D.: 1768, Jan. 28—1836, July 19; b. Mayenne, France: first Rom. Cath. bishop of Boston. He entered the College of Louis le Grand, 1781, was ordained 1790; served as curate at Mayenne, was persecuted for not taking the oath prescribed by the assembly, went to England 1792, and taught French and math. in a Protestant school. Resigning his property at home to his brother and sisters, he crossed the sea, 1796, and joined the mission at Boston, where his eloquence attracted hearers and his apostolic manners gained affection. After 3 months' missionary labor in Me. he was recalled to Boston on an outbreak of yellow fever, ministered devotedly to the sick without regard to creed, and won such esteem that the Mass. legislature consulted him as to the form of an oath for voters, and his church of the Holy Cross was built, 1803, largely by Protestant contributions, Pres. John Adams heading the list. C. was among the founders of the Athenaeum, and often lectured before learned bodies and preached in Protestant churches. Much against his will, he was made bishop of Boston, 1810; as such he founded an Ursuline convent at Charlestown and greatly extended the domain of his faith in New England. With manners unaffected by his elevation, he yearly visited the Penobscot Indians in Me. Warned by asthma to seek a milder climate, and appointed bishop of Montauban by Louis XVIII., he gave all his goods to the clergy and the poor and returned to France 1823. He was made abp. of Bordeaux and peer of France by Charles X., restored to the latter rank by Louis Philippe after the revolution of 1830, and created cardinal 1836, Feb. 1. He turned his palace into an asylum for the sufferers by a flood at Montauban, and again into a cholera hospital at Bordeaux, with the inscription *Maison de Secours*. He died at Bordeaux. His life was written by Hamon or Huen-Dubourg, and twice translated.

CHEVES—CHEVREUL.

CHEVES, *chēv'is*, LANGDON, LL.D.: 1776, Sep. 17—1857, June 25; b. Rocky River, Abbeville dist., S. C.: statesman. He began to earn his living in Charleston at the age of 10, and to study law at 18; was admitted to the bar 1797, and in ten years had the then huge professional income of \$20,000. He was in congress 1811–16, and made, 1811, an eloquent speech, heard and praised by Irving, on the merchants' bonds; was chairman of the naval committee 1812, and of that of ways and means 1813; speaker of the house 1814–15, and defeated Dallas's scheme to recharter the U. S. Bank. Declining re-election, he became a judge of the S. C. superior court 1816–19. As pres. of the board of directors of the U. S. Bank, 1819–22, he largely restored its credit. He was chief commissioner of claims, 1822, under the treaty of Ghent, and lived at Philadelphia and Lancaster, Penn., till 1829, when he retired to a plantation in S. C. and refused further office. He favored a southern confederacy, but opposed the secession of S. C. alone, 1832, and again at the state convention 1852. He was also a delegate to the Nashville commercial convention 1850. His works are confined to speeches, letters, and reviews. He died at Columbia, South Carolina.

CHEVET, n. *shē-vā'* [F., a bolster, a bed-head]: the termination of a church behind the high altar, when of a semi-circular or polygonal form; the choir.

CHEVIOT HILLS, *chiv'e-ūt* or *chēv'e-ot*: range of hills occupying contiguous parts of the counties of Northumberland and Roxburgh, on the English and Scotch borders, running 35 m. from near the junction of the Till and Tweed in the n.e. to the sources of the Liddel, in the s.w. The principal points are C. Hill, 2,676 ft. and Peel Fell, 1,964. West of Carter Fell, these hills chiefly consist of carboniferous sandstone and limestone, with protrusions of trap. The e. portion is porphyritic, and includes higher and more or less conical hills. In the C. H. are the sources of the Liddel, Tyne, Coquet, and some branches of the Tweed. Grouse abound, and the golden eagle is seen. These hills afford pasture for the Cheviots, a superior breed of sheep. They have been the scene of many bloody contests between the English and Scotch.

CHEVISANCE, n. *shēv'i-zāns* [F. *chevissant*, mastering, managing; *chevir*, to master, to manage]: in *OE.*, achievement; gain or profit in trade.

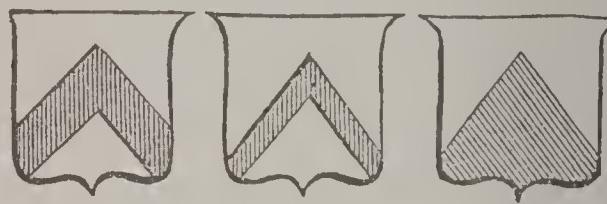
CHEVRETTE: see GYN.

CHEVREUL, *she-vrēl'*, MICHEL EUGENE: distinguished French chemist, born 1786, Aug. 31, at Angers, in the department of Main-et-Loire. In 1820 he was made an examiner in the Polytechnic School, and in 1824 director of the dyeing department in the manufactory of the Gobelins. This last position led him to institute a series of accurate researches on colors, the results of which he made known in a series of *Mémoires* of the Academy of Sciences. Previous to this C. had made himself known in the scientific world by a variety of researches and writings. In 1826, he was made a member of the Academy; and in 1830

CHEVRON.

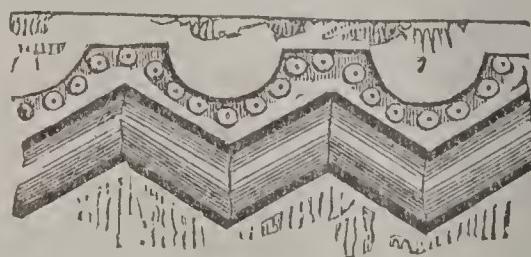
professor of applied chemistry in the Museum of Natural History. Besides a great number of articles in the *Journal des Savants*, beginning with 1820, the following works of C. deserve mention: *Leçons de Chimie appliquée à la Teinture* (1828-1831); *De la Loi du Contraste simultané des Couleurs et de l'Assortiment des Objets coloriés* (1839); *Théorie des Effets Optiques que présentent les Etoffes de Soie* (1846); *De la Baguette divinatoire, du Pendule, et des Tables tournantes* (1854); *Des Couleurs et de leur Application* (1864); *L'Acide Arique* (1871). C. is a commander of the Legion of Honor. His 100th birthday was celebrated with much enthusiasm in 1886, when C. still enjoyed good health. D, 1889, Apr. 9.

CHEVRON, n. *chèv'rōn* [F. *chevron*, a rafter—from mid. L. *capronem*, a log or beam: Sp. *cabrio*, a rafter]: a figure of two rafters meeting at the top; in heraldry, one of the honor-



Chevron. Chevronel. Per Chevron.

able ordinaries, representing the couples or rafters of a house and supposed to betoken the accomplishment of some memorable work, or the completion of some business of importance, generally the foundation of his own family by the bearer. The C. is formed of two lines placed pyramidically, i.e., joined together at the top, and descending to the extremities of the shield in the form of a pair of compasses. *Chevronel*, a diminutive—half the size—of the chevron. *Per chevron*, or *party per chevron*, is where the shield is divided by a line in the form of the chevron. C. in *arch*. is a molding in the form of a succession of chevrons, otherwise called a zigzag molding. In general it is characteristic of Norman architecture, but is found also

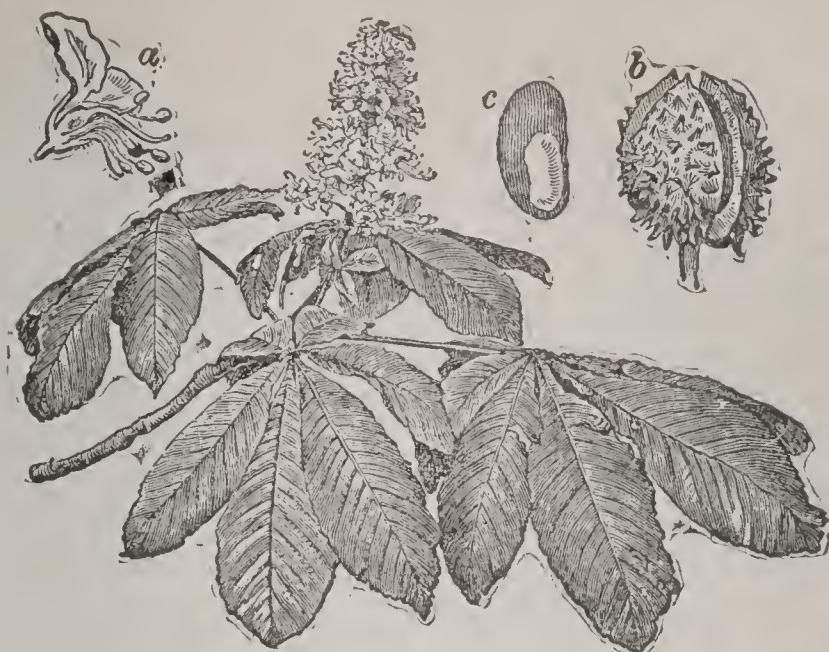


Chevron, or Zigzag:
Andover, Hants.

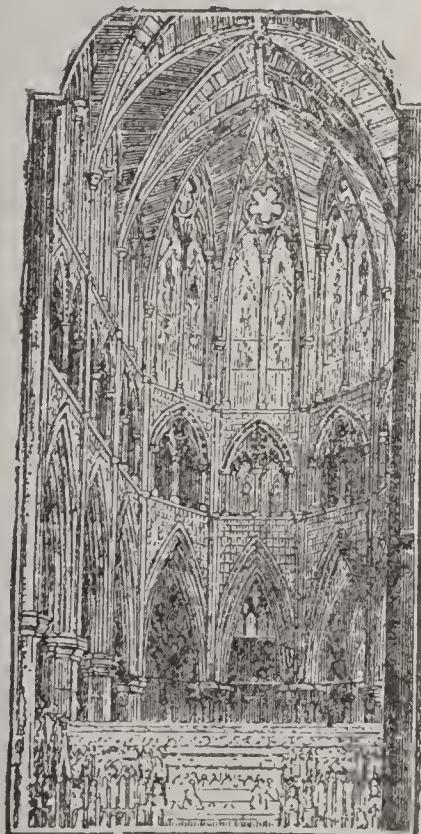
with the pointed arch, during the transition period from Norman to Early English. CHEVRONS, stripes or bands of white or gold lace, worn on the sleeve as badges by non-commissioned officers of regiments. The corporals, and the various grades of sergeant, have chevrons varying from one to four in number. CHEVRONED, a. -rōnd, having a chevron. CHEVRON-BONES, small elongated bones or pro-

PLATE 13.

Chestnut
Chicory



Branch, with Blossom, of Horse-chestnut (*Aesculus Hippocastanum*):
a, Vertical section of single flower; b, Fruit; c, A single seed, its coat partly removed.



Chevet, east end of Westminster
Abbey.



Chicory (*Cichorium Intybus*):
a, Single flower; b, A separate floret.

CHEVROTAIN—CHEWINK.

cesses placed below the vertebrae of the tails of certain animals.

CHEVROTAIN, *shēv'rō-tān'* [OF. *chevrot*, a little goat—from *chevre*, a goat]: small ruminant animal, light and graceful, native of many of the mountains of Asia. Chevrotains form a family of ungulates distinct from *Bovidae* and *Cervidae*, and in some respects nearer to the *Suidæ*.

CHEVY, n.: see CHIVY.

CHEVY CHASE, *chēv'i chās*: most famous of British ballads. In its present form, the piece does not seem older than about the beginning of the 17th c., though doubtless more ancient versions existed and are partly incorporated. It is impossible to reconcile its incidents with history, but the event commemorated appears to have been the battle of Otterburn, 1388, Aug.—a fight which Froissart declares to have been the bravest and most chivalrous in his day. According to the ballad, Percy vowed that he would enter Scotland, and take his pleasure for three days in the woods of his rival, and slay the deer therein at will. Douglas, when he heard the vaunt, exclaimed: ‘Tell him he will find one day more than enough.’ Accordingly, at the time of the hay-harvest, Percy with stag-hounds and archers, passed into the domains of his foe, and slew a ‘hundred fallow-deer and harts of grice.’ When the English had hastily cooked their game, and were about to retire, Earl Douglas, clad in armor, and heading his Scottish spears, came on the scene. Haughty challenge and defiance passed between the potentates and the battle joined. In the centre of the fray the two leaders met, but an English arrow struck Douglas to the heart. Percy chivalrously took the dead man by the hand, and declared that he would have given all his lands to save him, for a braver knight never fell by such a chance. Sir Hugh Montgomery, having seen the fall of Douglas, dashed on Percy, and struck his spear through his body a long cloth-yard and more. Although the leaders on both sides had fallen, the battle, which had begun at break of day, continued till the ringing of the curfew-bell. Scotchmen and Englishmen both claim the victory. When the battle ended, representatives of every noble family on either side of the border lay on the bloody greensward.

CHEW, v. *chō* [AS. *ceowan*, to chew—from *ceac*, the jaw: Dut. *kaauwen*, to chew—from *kauwe*, the jaw]: to crush with the teeth; to masticate. CHEW'ING, imp. CHEWED, pp. *chód*. CHEW THE CUD, to eat the food over again, as a cow; to think; to meditate.

CHEWINK, *chēwīnk*, or GROUND ROBIN (*Pipilo erythrophthalmus*), sometimes called Towhee Bunting: bird belonging the family of *Fringillia* or finches. It is 7½ to 9 inches long, the wing 3 to 4 inches, the tail 4 inches or more. Its colors are black and brown, varied with white and red. It is common in most parts of the United States, e. of the Missouri. Similar species are found on the Pacific coast. It goes s. in Oct. and returns in spring. It lives chiefly in

CHEYENNE—CHEYENNE MOUNTAIN.

thickets, and seeks worms, insects, and seeds among the leaves so eagerly that it may be closely approached.

CHEYENNE, *shē-ēn'*: city, cap. of Laramie co. and the state of Wyo.; on Crow creek, and the Union Pacific railroad at the junction of the Denver Pacific, Colorado Central, C. and Burlington, and C. and Northern railroads; 106 m. n. of Denver, 516 m. w. of Omaha, 1,260 m. e. of Sacramento; 6,000 ft. above the sea. It lies at the base of the Rocky Mountains, is watered on two sides by the Crow Creek affluent of the S. Platte river, and has a gradual descent from w. to e. It early became the centre of the great beef-growing region, the shipping point for cattle to e. markets, and the supply depot for the trade of the Rocky Mountain region, and in consequence its development has been rapid. While C derives its chief importance from its live-stock interests, its facilities as a manufacturing centre are attracting attention. It contains large machine and repair shops of the Union Pacific and the C. and Burlington railroads, breweries, bookbinderies, and saddle and harness, carriage and wagon, woodwork, and cigar factories. C. claims to have had the first street-lighting electric plant in the country, and has a model sewage system, paid fire dept. with alarm telegraph and telephone communication. The supply of water for fire, drinking, and other purposes is taken from Crow Creek to Lakes Absaracca and Mahpealutah, and as the source is nearly 130 ft higher than the city, there is sufficient gravitation to furnish all needful force. The works were built by the city at a cost of \$150,000. There are 10 churches; 6 public schools; Rom. Cath. convent school (cost \$50,000); public library; terr. capitol, completed 1888 at a cost of \$150,000, and then ordered enlarged at a cost of \$125,000; co. hospital (cost \$35,000); opera-house (cost \$40,000); club-house (cost \$30,000); Y. M. C. A. building with hall, gymnasium, and reading-room; depots of the Union Pacific railroad (cost more than \$100,000), and of the C. and Burlington railroad (cost \$90,000); grounds, buildings, and race-track of the Terr. Fair Assoc. $\frac{3}{4}$ m. n.w. of the city; and, 3 m. w., Fort Russell (recently enlarged at a cost of \$150,000), the largest milit. post in the dept. of the Platte. Near the city are a number of more or less noted silver mines. Pop. (1870) 1,450; (1880) 3,456; (1890) 11,690; (1900) 14,087.

CHEYENNE MOUNTAIN: in El Paso co., Colo.; southernmost peak of the range lying w. of Colorado Springs. It is a few m. distant from Manitou, and is reached *via* Cheyenne Cañon, down which the 'Seven Falls' cascade plunges in a succession of picturesque leaps a distance of 500 ft. The summit is rendered accessible by a stairway which has been built by the side of this torrent. At the top of the stairway a winding trail leads to the self-selected grave of Helen Hunt Jackson, the popular writer. The view from the summit is weird, majestic, and awe-inspiring. The celebrated Pike's Peak is in the same range, a few m. north.

CHEYENNES—CHHATISGARH.

CHEYENNES, *shē-ēnz'*: Indian tribe of the Algonquin family, though some place them in the Dakota group. Originally living near the Red River of the North, they were driven beyond the Missouri by the Sioux, and were found by Lewis and Clarke 1803 on the Cheyenne river, near the Black Hills. Becoming skilful horsemen, they extended their raids to New Mexico. Gen. Atkinson made the first treaty with them 1825. They soon parted, some remaining with the Ogallala Sioux about the valleys of Powder and Tongue rivers, others removing to the Arkansas river and joining the Arapahoes. They were estimated, 1822, at 3,250, 1847 at 5,300. By a treaty at Fort Laramie 1851, the northern band agreed to permit the making of roads. Numerous treaties have since been made with them, but very poorly kept by govt. and little regarded by settlers. The massacre of 100 men, women, and children at Sand Creek 1864, Nov. 29, by Col. Chivington, of Colo. raised up a war said to have cost 30 or 40 millions. More treaties followed, and more hostilities. Most of the southern band agreed, 1865, to go on a reservation; Gen. Hancock burned at the Pawnee Fork, 1867, the villages of those who refused, and Custer at Washita killed 12 braves and 25 squaws and children. These incidents did not inspire confidence nor end the troubles. The history of this tribe, as of many others, is a confused tale of the white man's wrongs and blunders. In 1899 there were 2,069 of them in Oklahoma on a reservation of 529,-682 acres, and 1,349 at the Tongue River Agency in Montana, on a reservation of 371,200 acres. They have only a tribal form of government.

CHEYNE, *chān*, GEORGE: 1671–1743, Apr. 12; b. Aberdeenshire: Scottish physician. He studied at Edinburgh, and in 1700, after taking the degree of M.D., he went to London, where he practiced in winter, and in Bath in summer. From full living he became enormously fat, as well as asthmatic; and having reduced his flesh by a milk and vegetable diet, he recommended it in his principal medical treatises. In 1702, he published *A New Theory of Fevers*; in 1703, a work *On Fluxions*, which procured him admission into the Royal Soc. Among his works are: *Philosophical Principles of Natural Religion* (1705); *Observations on Gout* (1722); *Essay on Health and Long Life* (1725); *The English Malady, a Treatise on Nervous Disorders* (1733); *Essay on Regimen* (1739); *Account of Himself and of his various Cures*, 1743. Dr. C. died at Bath.

CHHATISGARH, *chāt-ēs-gār'*, or **CHUTTEESGURH**, *chūt-tēs-gūr'*: division of Brit. India, under the chief commissioner of the Central Provinces, including the districts of Rāipur, Bilāspur, and Sambalpur, with seven small feudatory states; lat. from $16^{\circ} 50'$ to $23^{\circ} 10'$ n., long. from $80^{\circ} 30'$ to $83^{\circ} 15'$ e.; 25,013 sq. m. Two rivers rise in the n.w. corner of C.; the Nerbudda flows w. to the Bombay coast, the Son empties into the Ganges in Lower Bengal. It is mainly a vast fertile plateau, and has of late become a great centre of the Indian grain trade. Pop. in 16,054 villages (1880) 4,612,705; (1891) 3,537,350; of these

CHHINDWARA—CHIARO-OS CURO.

over 2,000,000 were Hindus and most of the remainder aboriginal tribes.

CHHINDWARA: see CHINDWARA.

CHIABRERA, *ke-á-brá'rá*, GABRIELLO: 1552, June 8—1637, Oct. 14; b. Savona: Italian poet. He was educated at Rome under the care of his uncle, after whose death he entered the service of Cardinal Cornaro, but was obliged to leave it in consequence of the revenge he had taken on an Italian nobleman who had done him an injury. In his 50th year he married. C.'s poetical faculty developed itself late. Having commenced to read the Greek writers at home, he conceived a great admiration of Pindar, and strove successfully to imitate him. He was not less happy in catching the naïve and the pleasant spirit of Anacreon; his canzonetti being distinguished for their ease and elegance, while his *Lettore Famigliari* was the first attempt to introduce the poetical epistle into Italian literature. C. wrote also several epics, bucolics, and dramatic poems. His *Opere* appeared at Venice, 6 vols., 1768.

CHIAN, a. *kí'án*: pertaining to Chios, an island in the Ægean Sea.

CHIANA, *ke-á'ná* (in ancient times, *Clanis*): river in Tuscany, formed by several streams from the Apennines, and falling into the Arno a few m. below Arezzo. With another river of the same name, which, flowing in the opposite direction, enters the Paglia at Orvieto, it waters the perfectly level Val di Chiana, which its overflow formerly rendered the most pestilential district of Italy. Ferdinand III. and his minister, Fossombroni, undertook extensive hydraulic works for improving the bed of the river, which they led through the lakes of Montepulciano and Chiusi, and employed for the artificial irrigation of the whole valley. The district has since become the most fruitful, perhaps, of all Italy—a garden, having pop. of more than 100,000.

CHIANTI, *ke-án'té*: mountain-range in Tuscany, 15 m. n.e. of Siena. C. gives name to an excellent wine grown in the neighborhood.

CHIAPA, *che-á'pá*, or CHIAPAS, *che-á'pás*: state in the s.e. of the Mexican confederation, lying s.w. of Yucatan; 16,048 sq. m. Near Palanque, one of the towns of C., are extensive and magnificent ruins. Pop. mostly aborigines (1882) 209,362; (1890) 241,404; (1900) 363,607.

CHIARAMONTE, *ké-á-rá-món'tá*: town of Sicily, about 32 m. w.s.w. of Syracuse; on a hill. It has well built, regular streets. Wine of good quality is produced in the district. Pop. about 9,000.

CHIARI, *ké-á'ré*: town of Lombardy, 14 m. w. of Brescia, on the railway between that place and Milan. It is an ancient place, many Roman remains being still found here; and formerly it was strongly fortified, but its walls are now ruinous. Silk is the staple manufacture. Pop. 5,999.

CHIARO-OSCURO, n. *ké-ár'ó-ós-kó'rō*, also CHIARO-OSCURO, *ke-ár'ós-kó'rō* [It. *chiaro*, clear, or light; *oscuro*, dark]:

CHIASMA—CHIAVENNA.

a drawing in black and white; also the art of advantageously distributing the lights and shadows in a picture. C. is not adequately described by saying that it is the art of disposing of both the lights and shadows in a picture, so long as either is regarded apart from the other. It is rather *the art of representing light in shadow and shadow in light*, so that the parts represented in shadow shall still have the clearness and warmth of those in light, and those in light the depth and softness of those in shadow. It is not the making of the one die softly and gradually away into the other, but the preservation of both in combination, as is constantly seen in nature, when the light is not the mere glare of the sun striking on a particular object, nor the shadow the entire absence of the influence of light. That the skilful treatment of C. is extremely difficult, is plain enough from the very small number of artists who attain to it. Still it is a branch of art without at least an approximate mastery of which no painting can be successful in any department. It is as indispensable in portrait painting as in the highest departments of ideal-art; and though a just and even a lofty conception of the subject may be distinctly indicated by attention to form alone, it is impossible that its realization can ever be satisfactorily accomplished by any one who has not mastered this most subtle mode of handling colors. The only mode by which a knowledge of C. can be attained, so as to apply it to practice, is by studying it as exhibited by such painters as Titian, Rubens, Rembrandt, and above all, Correggio.

CHIASMA, n. *ki-ăz'mū* [Gr. *chiasmos*, a marking with the Greek letter χ , a cut crosswise]: in *anat.*, the central body of nervous matter formed by the junction and the crossing of the fibres of the optic nerves.

CHIASTOLITE, n. *ki-ăs'tō-lit* [Gr. *chiastos*, marked with the Greek letter χ , or cleft: *lithos*, a stone]: a mineral, so called from the resemblance of the lines on the summits of the crystals to the Greek letter χ ; a variety of andalusite or silicate of alumina.

CHIAVARI, *kē-ăvā-rē*: maritime town of Piedmont, on the gulf of Rapallo, at the mouth of the Sturla, 21 m. e.s.e. of Genoa. The houses in general are well built, with open arcades skirting the narrow streets. C. has several fine churches, the principal of which is the *Madonna del' Orto*. Numerous picturesque old towers, one of considerable size, are scattered over the town. Lace and silk are manufactured here; and the place is noted for its light, handsome, cheap furniture, made chiefly of cherry-wood. The anchovy fishery is important; and in the vicinity are large slate-quarries. Pop. about 12,000.

The old province of C., of which the above town was the cap., had 155 sq. m. Its surface is generally mountainous but it has valleys of great fertility, yielding grain, grapes, olives, etc. Cattle, sheep, goats, and silkworms are reared. Its pop. was 109,000.

CHIAVENNA, *ke-ă-ven'nā*: town of Lombardy, beautifully situated in the midst of vineyards, at the junction of the valley of St. Giacomo and Val Bregaglia, 38 m. n.n.w.

CHIBOUQUE—CHICACOLE.

of Bergamo. It is overlooked by the Rhetian Alps; and its position on the Splügen road secures it considerable traffic. Silk, cotton, and a coarse ware cut out of a soft stone found in the neighborhood, are the chief manufactures. Pop. 2,848.

CHIBOUQUE, n. *chi-bük'* [Turk., with F. spelling]: a Turkish tobacco pipe with a very long tube; a hookah.

CHICA, *chē'ka*: red feculent substance, valuable dye-stuff, giving orange-red color to cotton. It is obtained by boiling the leaves of a species of *Bignonia* (*B. Chica*), native of the banks of the Cassiquiare and the Orinoco. The Indians use it for painting their bodies. The C. plant is a climber, with abruptly bipinnate leaves, smooth heart-shaped leaflets, and flowers in pendulous axillary panicles. See *BIGNONIACEÆ*.

CHICA, n. *chē'kă* [a native name: Sp. *chicha*, a beverage from any sweet juice fermented]; called also PITO, or Poso, or MAIZE BEER: in S. America, a fermented liquor made from maize or Indian corn; the common drink of the Indians long before the Sp. conquest; beer made from other grains and vegetable products. C. from corn is much used in some parts of S. America, and is made in a similar manner to ordinary beer: but the Indians sometimes prepare it by chewing instead of crushing the grains; and that which is so prepared (*Chicha mascada*, or chewed C.) is most esteemed by them. When they wish to make this liquor particularly strong and highly flavored, they have also a practice of pouring it into an earthen jar which contains some pounds of beef; and having made the jar perfectly air-tight, they bury it several feet deep in the ground where it is left for several years. On the birth of a child, it is their custom thus to bury a jar of C., to be drunk at the same child's marriage. C. has an agreeable flavor, and is very strong and intoxicating. A spirituous liquor is obtained from it by distillation; vinegar also is made from it.

CHICACOLE, *chik-a-kōl'*: town of the dist. of Ganjam, presidency of Madras; lat. $18^{\circ} 18'$ n., and long. $83^{\circ} 58'$ e.; 415 m. s.w. of Calcutta, and 435 n.e. of Madras. It stands on the left or n. bank of the Naglaudee, not far from the Bay of Bengal. The place has a reputation for its richly-worked muslins. It is a military station, and contains, besides its garrison, a native pop. of 17,000.

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CHICAGO, *shī-caw'go*: principal city of Illinois, and one of the chief cities of the United States; in Cook co., on the w. shore of Lake Michigan, about 20 m. from the s. end of the lake, and at the mouth of the small Chicago river; lat. $41^{\circ} 53'$ n., long. $87^{\circ} 39'$ w. from Greenwich. The advantages of its situation, at the head of the navigation of the four lower lakes and near the portage from Lake Michigan to the upper waters of an important tributary of the Mississippi, were the fundamental causes of its early growth; while, since the development of the grain regions of the great northwest, its position upon that route (around the head of Lake Michigan), which is the shortest path from that region to the east, has ensured it a metropolitan career, the advantages of being a great railway centre, with a vast tributary region, being added to those which it possessed as head of navigation.

Population.—The population of C. in 1880 was 503,185, against 298,977 in 1870. The gain during the period since 1880 has been considerably more rapid. C. was at that time the fourth city of the United States in respect to population. The population in 1890 was 1,099,850; in 1897 (estimated) 1,750,000. Of the number reported in 1890, 649,184 were natives of the United States; 450,666 were foreign-born; of these latter the nationalities were as follows: British-American 24,297; Irish 70,028, English 28,-337; Scotch 9,271; Germans 161,039; Austrians 6,043; French 2,502; Italians 5,685; Russians 7,683, Hungarians 1,818, Bohemians 25,105, Poles 24,086; Norwegians 21,835; Swedes 43,032; Danes 7,987; Spaniards 120; Chinese 584. The colored population in 1890 numbered 14,271. Pop. (1900) 1,698,575.

Topography.—The city has an area of about 189 sq. m. The site of the business portion is about 14 ft. above the lake; it originally lay much lower, but the level has been raised during recent decades. From this district the land rises in an inclined plane, reaching at the w. a height of 28 ft., and affording slow but adequate drainage. Its surface is not at all diversified. The city extends n. and s. along the curving lake-front about 8 m. The C. river, by means of skilful engineering, receives its main supply from, and is cleansed by, the waters of the lake. Southward from its mouth extends an artificial harbor, protected by the 'government pier.' Its lower course, of half a mile, is e. in direction. Above this it branches. Of the two affluents which here unite to form this short main stream, one flows in from the n.w.; the other comes from the s., or farther up, from the s.w. The river and its branches, with numerous slips, afford a water frontage of 46 m. The city is divided by the river and its branches into three divisions, legally known as the N., S., and W. Divisions, but popularly known as the N. Side, the S. Side, and the W. Side. The N. Side, n. of the main river, lies between the n. branch and the lake shore, which are nearly parallel, and has during most of the history of the city been the region of the most noteworthy residences. The W. Side, lying to the w. of the two branches, is the region of the manufacturing industries and of the lumber business, and

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also contains a large population, in 1880 more than one-half the total population of the city. The section of C. in which the most important business interests are concentrated is the district bounded on the e. by the lake, on the n. by the river, and on the w. by that portion of the s. branch which flows due n.—a district of less than a square mile, in which an enormous volume of business is transacted. The portions of the s. side which lie southward of this section are largely given to residences, among which houses of the finer sort are growing more and more numerous. The effect is to give the city *two* social centres, some six or eight m. apart, and on opposite sides of the great business centre. The climate of C., though some ten degrees warmer in winter than the average of its immediately tributary territory, is a harsh one; in the centre of the city the atmosphere is often thickened and darkened by the dense clouds of bituminous coal smoke from the manufacturers. The total number of deaths in C. in 1890 was 23,162, or about 21 per 1,000 inhabitants.

A peculiar degree of attention has been given in C. to the provision of an adequate system of public parks and driveways. The entire area of the parks of the city is 2,232 a. With the connecting boulevards, 200 ft. wide, they encircle the city. Upon the lake shore at the s. is Jackson park, and almost continuous with it is Washington park. These together include 957 a. From these a boulevard runs more than four m. w., then more than four m. n., to Douglas park, at a less distance to the n.w. of which is Garfield park. Each of these has more than 150 a. Two m. n. of the last-named tract, and lying thus at the n.w. of the city, is Humboldt park, of a somewhat larger area. Still another boulevard, running e. from this three and one-half m., connects it with Lincoln park, a tract of nearly 250 a., lying upon the lake shore at the n. extremity of the city. There is also a drive, parked for a part of the distance, along the lake shore. This system of parks and boulevards encircling the city is not entirely finished, but it already constitutes a great adornment and advantage, and is nearly completed. Since all these boulevards, as well as the roads in the parks, are kept free from traffic and maintained in admirable condition, the facilities afforded for pleasure-riding and driving are unusual, if not unexcelled; the avenues immediately connected with the park system are not included in the city street department, but are under the care of the commissioners of parks, and are maintained by special taxation. An effect of these facilities is that C. peculiarly abounds in horses kept for pleasure and in fine equipages. Numerous substantial viaducts have been built over the boulevards and principal streets to accommodate the many railroads which enter the city. Certain minor parks of the city are of importance not only because of the perfection to which the improvement of them has been carried, but also because they are situated in the very heart of the portion of the w. side devoted to dwelling-houses. Of the cemeteries, Graceland, Rose Hill, and Calvary, in the n. division, are most attractive.

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Suburbs.—The topography of the region is such that there is no limit to the expansion of the city, except on the side toward the lake. The result has been that, with the rapid increase of the city's population and the improvement of railway communications, a large tract of country all around has been devoted to suburban residences. The population of these, though not reckoned to C. by the census, greatly augments its importance as a centre. Several of these suburbs are only politically distinct from C., being populated until their settled areas are continuous with those of the metropolis. Suburban extension has taken place more upon the n. and s. sides of the city than at the w. So rapid has been the growth of these suburbs that the figures of the census of 1880 very soon became quite useless as guides respecting their size. Upon the n., the townships of Lake View and Jefferson contain a considerable population. Along the shore of the lake, beyond Lake View, are many rapidly-growing suburban villages. Evanston, ten m. distant from C., is the seat of the Northwestern Univ. Lake Forest, 18 m. further, is a favorite fashionable resort; many of the wealthiest inhabitants of C. retire in the summer to Geneva Lake, in Wisconsin, 86 m. from their city. On the s. lie the townships of Lake and Hyde Park. The latter, with an area of 48 sq. m., contains several flourishing suburbs, the northernmost of which are continuous with the city. One of the most notable of these southern suburbs within the area of Hyde Park is the model city of Pullman, created in an almost incredibly short time (at the beginning of 1880 it was uninhabited prairie) by the Pullman Palace Car Company, with the intention of bringing into existence a manufacturing city which, while giving adequate facilities for their own works, should also afford, to their own and other working-people, healthful and attractive homes amid surroundings tasteful and conducive to social well-being. All the buildings are of brick; the factories are of attractive appearance, and the landscape-gardening is highly skilful. The result is almost an ideal suburban town. Pullman is about 13 m. from the centre of C., and lies near Lake Calumet. On the same side lies South C., the seat of extensive steel-works. In the township of Lake is a suburb of more than 10,000 inhabitants, which receives its name from the Union Stock Yards, where the vast live-stock trade of the city is transacted. The yards comprise 207 a., and have capacity for 21,000 cattle, 75,000 hogs, and 22,000 sheep. The town which has grown up around them is well supplied with schools and other public institutions. The largest houses for pork-packing are in the vicinity of the stock-yards.

Streets, Bridges, Waterworks, etc.—Returning from the general topography of the city and its environs to the particular consideration of its public improvements, one notices first the marked amelioration in respect to these, since the great fire. There are 2,547 m. of streets, of which 1,134 m. are paved, and 1,372 m. of alleys. The great boulevards have already been noticed. The

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principal streets run n. and s., especially in the business district; many of the principal streets in this region are named for the earlier presidents of the United States. The plan of arrangement in regular squares (the 'checker-board' plan) prevails almost universally. C. is abundantly supplied with horse railroads and with cable railroads; together these make np 250 m. of railway. The river and its branches are spanned by 36 bridges. To give additional facilities of communication, a tunnel was constructed in 1869 to connect the s. and w. divisions, and another in 1871 to connect the n. and s. sides. The former is 1,608 ft. long, and cost \$400,000; the latter is 1,890 ft. long, and cost \$549,000.

The system by which C. is supplied with water is a remarkable one, and one in which much engineering skill was employed. The water is obtained from the bottom of Lake Michigan. Of the two systems of water-works, the buildings of the one first completed are in the n. division, near the lake shore. They consist chiefly of a stonc water-tower, 175 ft. high, up which the water is forced by cngines having a total pumping capacity of 100,-000,000 gallons daily, and from which the water is distributed. From this tower a cylindrical tunnel of masonry, 5 ft. in diameter, extends three miles under the lake, from which it receivcs its supply through a grated cylinder, inclosed in an immense 'crib.' Another tunnel, seven ft. in diamcter, was completed in 1875; it also connects with the crib, and, through independent pumping works, supplies the s.w. part of the city. The total cost of these works has been about \$9,000,000. There are now also a large number of artesian wells, affording an abundant additional supply of water. The average daily consumption of water by the city is estimated at 147,000,000 gallons. Gas is supplied by private compagnies. At the end of 1881 there were 362 m. of sewers, of which 204 were of brick and 128 of vitrified pipe. The problem of sewerage is rendered the more delicate by the level nature of the city's surface; the principal deposit of sewage is into the lake.

Public and Important Buildings.—The new United States custom-house and post-office building is a massive structure, built of Cincinnati sandstone, $303\frac{1}{2}$ ft. by $201\frac{1}{2}$, and 144 ft. high from the ground. It eost nearly \$5,500,000. A still more imposing building is the new county court-house and city hall, which covers two acres in ground plan, and has a height of 124 ft., with five stories and a basement. It has a central position in the business part of the city, and is commonly used as a starting-point in noting distances. It is buult of limestone, with facings of Fox Island (Maine) granite, and when completed will have cost about \$4,500,-000. Another important structure is the new building of the board of trade, built of granite in a modern Gothic style. Its dimensions are 174 ft. by 225; it is of great height, and has a lofty tower (303 ft. high). The main trading-hall has a floor surface of nearly 23,000 ft.; the building contains, beside the rooms necessary for the board of trade, a great number of offices. It is elaborately decorated within, and

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cost \$1,500,000. The interstate industrial exposition building, upon the lake front, is another noteworthy semi-public building; it is 1,000 ft. in length, with an average width of 240 ft., is modelled after the Vienna exposition building of 1866, and is used for annual exhibitions. The Central Music Hall, with a seating capacity of 2,000, a grand organ, and a smaller chamber-concert hall, was erected by a stock company, desirous to promote the interests of music in C. Of the 16 theatres, some are architecturally handsome McVicker's Theatre, the Columbia, and the Auditorium are the most prominent places of amusement. There are also museums, permanent panoramas, and roller-skating rinks. Of the 145 hotels in the city, some have architectural pretensions. There are a few art-galleries of a semi-public character, and an art museum. The chief hospitals are the new Cook county hospital, of brick, accommodating 1,000 patients, and Mercy hospital. A marine hospital, one of the largest and most costly in the country, is at Lake View, a little beyond Lincoln park. The city contains handsome monuments of Abraham Lincoln and Gen. Grant in Lincoln park, and the tomb, monument, and bronze statue of Stephen A. Douglass, U. S. senator from Ill. 1847-61, erected by popular subscription near the lake shore. The monument is a tall column supporting the statue.

The architecture of dwelling-houses in C. is often superior, though something of pretentiousness is not infrequent. Both in the humble quarters and in the magnificent avenues detached houses are the rule, which gives a pleasing and home-like effect; in few large cities are the houses in so large proportion owned by their occupants, and occupied by but a single family. The finer parts of the n. and s. divisions, near the parks, are highly impressive in appearance. Some of the blocks devoted to business in the central parts of the city are fine specimens of architecture.

Communications.—Communication by means of the lake, highly important during most of the year, is, of course, impeded in the winter. The Illinois and Michigan canal, 102 m. long, which connects Lake Michigan at C. with the Illinois river at La Salle, and thus with the Mississippi, is generally open about eight months of the year. Its terminus at C. is connected with the s. branch of the river. Formerly this connection was by means of a lock; but recent improvements have effected a continuous flow of water from the lake through the river into the canal.

C. is one of the greatest railroad centres of the western continent. No fewer than 21 railways enter the city. The systems controlled by several of these include a mileage of from 1,000 to 3,000 m. each. Communication with the east is maintained by four great lines—that of the Lake Shore and Michigan Southern railway, connecting with the New York Central system, that of the Fort Wayne and Pittsburgh, connecting with the Pennsylvania R. R. Co.'s system; that of the Michigan Central, connecting with the Grand Trunk system, and that of the Baltimore and Ohio.

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S.e. extends the C. Cincinnati and Louisville, with its connections, and into s. Illinois the Illinois Central. Four great lines connect C. with St. Louis and Iowa and enable it to drain the fertile regions of w. Illinois, Iowa, Missouri, and the states to the w. and s.w. of them; these are the Illinois Central, the C. Alton and St. Louis, the C. Burlington and Quincy, and the C. Rock Island and Pacific. N. and n.w. from C. stretch the great systems of the C. and Northwestern and the C. Milwaukee and St. Paul. By the former Wisconsin is made tributary to C. by the latter Minnesota, Dakota, and part of Iowa. The city also has, through these, connections with the northern Pacific route. The railroads in general run far into the city. During 1889 20 railroads delivered 265,405 car-loads of live-stock in the city. Manufacturers of railroad cars and motive power received liberal orders for engines and freight cars (90,000 of the latter), with some passenger cars, at advanced prices. Nearly 500 regular passenger and suburban trains arrive at C., and depart daily.

Trade and Commerce.—The trade of C. is enormous. Some of the business houses of C. are of very extensive operations, among them are included those of the principal dry-goods merchant, the principal dealer in clothing, and the principal pork-packer in the country, if not in the world. The chief items of trade are grain, live-stock, and meat products and lumber. In 1896, there were 18 grain elevators with a capacity of 27,750,000 bushels. The receipts during 1895 were: flour 3,005,460 barrels, wheat 20,-637,642 bushels, corn 59,527,718 bushels, oats 79,890,792 bushels, rye 1,657,216 bushels, and barley 14,194,881 bushels. There were 751,501 barrels of flour manufactured. The live-stock receipts were: cattle 2,588,558, hogs 7,885,-283, sheep 3,406,739. The shipments of meat products were: dressed beef 910,839,175 lbs., dressed hogs 53,136 lbs., barrelled pork 300,029 lbs., lard 387,437,699 lbs., other meats 698,210,341 lbs. There were packed in the city during the year 1,958,206 cattle and 5,296,202 hogs. Of seeds 51,608,549 lbs. of timothy were received and 50,853,572 lbs. shipped, 5,688,860 lbs. of clover were received and 7,460,-214 lbs. shipped, 6,571,117 lbs. of other grass seeds were received and 7,253,742 lbs. shipped, 8,525,237 lbs. of flax-seed were received and 4,726,818 lbs. shipped. Of hides 90,822,102 lbs. were received and 174,807,918 lbs. shipped, wool, receipts 51,371,694 lbs., shipments 63,441,329 lbs.; coal, receipts 6,091,284 tons, shipments 985,158 tons; hay, receipts 267,599 tons, shipments 36,040 tons; lumber, receipts 1,638,130 M, shipments 773,983 M, shingles, receipts 352,313 M, shipments 298,835 M; cheese, receipts 59,012,-937 lbs., shipments 52,226,151 lbs.; butter, receipts 185,-452,991 lbs., shipments 176,846,168 lbs.; canned meats, receipts 7,584 cases, shipments 1,143,131 cases; salt, receipts 1,994,056 barrels, shipments 806,144 barrels; tallow, receipts 16,125,706 lbs., shipments 40,476,923 lbs.; stearine, receipts 2,881,902 lbs., shipments 6,159,015 lbs.; oatmeal, receipts 181,267 barrels, shipments 189,728 barrels; corn-meal, receipts 16,001 barrels, shipments 30,663 barrels; hops, receipts 7,127,057 lbs., shipments 8,029,623 lbs.

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Being situated between a vast region of pine forests and the prairie regions of the northwest, it was inevitable that C. should become one of the greatest distributing points for lumber. The w. half of Michigan, the n. peninsula of the same state, and the Green Bay districts of e. Wisconsin afford enormous supplies of white pine lumber, an indispensable requisite to the development of the west. Most of these regions are accessible to Lake Michigan, upon which accordingly great numbers of vessels transport the sawed lumber to C., which annually receives more than 2,000,000,000 ft. of white pine lumber. It is estimated that \$100,000,000 are employed in the lumber business there. The vessels bring their cargoes into the river, which, with its branches and some spaces in the outer harbor, affords the city lumber-yard dockage to the extent of 15 m. In these docks the lumber is discharged within a hundred feet of the railroad tracks by which it will ultimately be dispatched. The principal location of these yards is along the s. branch, in the s.w. part of the city. The trade is regulated by the lumbermen's exchange.

In 1895, Dec. 13, C. had 24 national banks, with an aggregate capital of \$21,800,000, deposits \$120,462,591, reserve \$28,396,648, surplus and profits \$12,702,720. The state banks and trust companies numbered 22 and had an aggregate capital of \$12,277,000, their deposits were \$81,946,848, surplus \$8,255,402, loans and discounts \$68,232,811, cash reserve \$11,228,728. In the board of trade clearing-house the clearings were \$78,133,438 in 1895 and the balances \$28,726,400, against \$56,060,295 clearings and \$20,519,901 balances 1894, and \$68,707,668 clearings and \$26,896,677 balances 1893. The aggregate bank clearings for 1895 were \$5,614,979,203. In 1902 there were 15 National banks, and 22 State banks.

It is a natural result of the rapid increase of the city that the real estate business is very flourishing, and speculation in town and suburban lots has at times prevailed. There are several important loan and building associations, which greatly facilitate acquisition of dwelling-houses by the working-classes. It is a result of this that there are few savings banks.

C. is the sole port of entry in the state of Illinois, though there are two customs districts, and is the entrepot of all the foreign commerce of the state. During 1902 imported merchandise was entered for consumption to the value of \$7,599,994, and the exports of the year were \$3,509,204. There were 360 vessels of 72,600.06 tonnage in the customs district. The entrances were 9,212 vessels with a total tonnage of 6,329,702, and the clearances were 9,363 vessels with a total tonnage of 6,392,497.

Manufactures.—In 1900 there were 9,203 establishments engaged in manufacturing, with a capital, including hired property, of \$534,000,689. The number employed was 262,621, with total wages during the year of \$131,065,337. The cost of materials used aggregated \$538,401,562, and the total value of the products \$888,786,311. Chief among these industries are slaughtering and meat-packing, with a

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total product of \$66,766,468, clothing \$21,230,084, iron and steel \$24,271,764, foundry and machine-shop products \$36,356,168, lumber \$3,927,750.

Government.—The municipal government of C. consists of a mayor and common council, with departments of health, law, police, fire, education, public works, building, and finance; also departments of the city clerk, treasurer, and collector. The board of aldermen is elected every two years, two being chosen from each of the 34 wards. The mayor presides over the council, and a two-thirds majority is required to override his veto. The police department is directed by a general superintendent appointed by the mayor. The city is divided into ten precincts and the central station, each in charge of a captain. There are 34 districts, each in charge of a lieutenant. The entire force in 1892 numbered 2,306. The fire department has 50 civil officers and 940 uniformed firemen.

City Finances.—The expenses of the city are covered by a direct tax on real estate and personal property, and by various licenses. The total income in 1890 was about \$23,-500,000, which includes about \$5,000,000 special taxes for street improvements. The principal disbursements were as follows: police \$2,182,906, schools \$4,734,000, fire department \$1,300,000, public works \$1,806,052, water fund \$3,048,000. In 1895, the tax value of the property was: real estate \$192,498,842, personal \$50,977,983, total \$243,-476.825. The tax rate was 5.84 per cent., and the total tax levied \$14,239,685. The bonded debt of the city was \$17,-188,950. The valuation for taxation represents but a fraction of the real value of the property of C. In 1902 the equalized valuations were real estate \$276,509,730, personal property \$125,985,401, and the tax rate \$15.82 per \$1,000.

Educational, Religious and Charitable Institutions.—There is an extensive system of public schools, comprising, in addition to the lower grades, a normal and a high school course, the latter of four years. A progressive spirit prevails. Especial excellence is attained in music. Many private schools exist. The proportion of school attendance to population of school age is not as great as in many cities. The illiteracy of the city is large, due mainly to the large foreign population. On July 1, 1896, there were 295 public-school buildings owned by the city and 296 buildings rented for school purposes. There are also over 100 private schools. Among the leading institutions for advanced education within the city limits is the University of Chicago, a Baptist institution. The Dearborn observatory contains a large refracting telescope of 18½ in. aperture. The city also contains St. Ignatius College (Rom. Cath.). In the suburb of Evanston is the Northwestern Univ. (Meth. Epis.), having 339 students in the preparatory and 156 in the collegiate department, and a library of about 40,000 vols. Lake Forest Univ., a smaller institution (Presb.), is situated in the suburb of Lake Forest. There are seven medical schools, a law school connected with the university, and three theological seminaries (Congl., Luth., and Presb.), besides a Meth. institute of similar character con-

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nected with the Northwestern Univ. at Evanston. The principal library of the city is the public library, for which the late Mr. Newberry bequeathed an endowment of \$2,000,000; before this it had 100,000 vols. The Academy of Sciences, though it lost by the great fire the whole of its invaluable collections, is now again a flourishing institution. The same is true of the Chicago Historical Society, which had a large collection of materials, the loss of which was irreparable. There are also an academy of design, and many well-sustained literary organizations. See CHICAGO, UNIVERSITY OF.

The city contains about 550 churches, distributed among 26 denominations. Religious life is active. Observance of Sunday is usual, though many places of amusement are open as on week days. There are a large number of hospitals. Other important charitable institutions are the Magdalen asylum, the home for the friendless, the Protestant orphan asylum, and the St. Joseph's and St. Mary's orphan asylums.

Newspapers, etc.—The first newspaper published in C. was the *C. Democrat*, which began to appear in 1833. In the census year, 1880, C. had 18 daily papers, with a daily circulation of 220,577; 138 weeklies, with a circulation of 886,702; 91 monthlies, with a circulation of 499,280, and 42 others. In 1896, there were published in Chicago 699 papers and periodicals. Among these were 35 daily papers, 283 weeklies and 271 monthlies. It stands second only to New York in the number of its periodicals, and third among the cities of the United States in respect to aggregate of copies issued during the year. The C. daily papers are generally large in size, and are conducted with much enterprise. The *Tribune*, *Times-Herald*, and *Inter-Ocean* are the principal ones.

History.—The name is of Indian origin, and is said to have been the name for a kind of wild onion, originally found on the shore of the lake. The first white men to visit the site of the city were the French missionaries and explorers, Marquette, Joliet, Hennepin, and La Salle, the first in 1673. Toward the end of the century a French fort was built there, but the spot was afterward abandoned. From 1796 on there was only a single hut at the place; in 1804 Fort Dearborn was established there, and the family of a trader moved to the spot. Indians in 1812 murdered the garrison, who had abandoned the fort, and the site was deserted again until 1816. The fort was then restored, and a few families gathered around it; but in 1830 there were only seven such families. Land-grants having been made by congress for the Illinois and Michigan canal, a town was laid out in that year, at the mouth of the C. river, and population soon began to flock in. In 1833, the town of C. was organized. A newspaper, the *C. Democrat*, was established that year, another one in 1835. In 1837 a city charter was obtained. A census taken in that year showed a population of 4,170. In spite of the panic of 1837, the produce trade, by way of the lake, increased rapidly. The canal, begun in 1836,

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was opened to traffic in 1848. The first railroad entering the city, a railroad intended to run w. to Galena, was begun in 1847. The first railroad communication with the east was established by the Michigan Southern and Michigan Central railroads, both of which reached the city in 1852. In the same decade the opening of the Illinois Central made the state tributary to C. In 1850 the population was 28,269; in 1860, 112,172; in 1870, 298,977. In 1871, Oct., a fire, starting during a gale, developed into the most terrible conflagration of modern times. Originating on the w. side, the fire spread to the s. side, doing still more damage there, and then to the n. side, where it was most destructive of all. The region devastated included the most important business districts of the city. The buildings burned were 30 per cent of all those in the city, their value 50 per cent. The most important public buildings were included. The area burned over amounted to 194 a. in the w. division, 460 a. in the s., and 1,450 in the n. Nearly 18,000 buildings were destroyed, about 100,000 people rendered homeless, and about 300 lives were lost. The loss of property was estimated at \$192,000,000. C. recovered from this calamity with marvellous rapidity, and has since had a career of almost uninterrupted growth and prosperity. In 1886, as a mob of anarchists were being dispersed by the police, a large number of the latter were killed by dynamite bombs, thrown by the anarchists. Numerous arrests were made, seven anarchists were tried for murder, and four were hung 1887, Nov. 11. In 1889, May, Dr. Philip H. Cronin was murdered, and his body secreted in a sewer basin. The solution of the mystery excited wide interest on account of the connection of suspected parties with camp 20 of the Clan-na Gael or United Brotherhood, and resulted in the conviction of four prisoners and the sentencing of three to imprisonment for life and one to imprisonment for three years. In 1890, Feb., congress passed a bill providing for the holding of a world's fair in commemoration of the discovery of America by Columbus 1492, at C., and subsequently postponed the fair till 1893. See COLUMBIAN EXPOSITION.

The rapid growth of the city from 503,185 to 1,099,850 in 1890 and to about 1,700,000 in 1897 has developed complicated questions in sanitation. Lake Michigan is the source of the water-supply, and at the same time the reservoir of the city's sewage, which averages 50,000 cubic feet a minute daily.

So great a menace was this sewage that in 1889 the people of the city succeeded in getting a bill through the Illinois assembly authorizing the construction of a drainage eanal on an immense scale. Work was begun 1892, Sept. 3, and the eanal completed 1900, January. The main eannel is 29 m. long, extending from Chicago to Lockport on the Illinois river, into which stream it discharges. About 9 m. of the eannel is cut through solid rock with a minimum depth of 22 ft., and a width of 160 ft. on the bottom of the rock, which makes it the largest artificial eanal in the world. The cost of the eanal is estimated at about \$45,000,000. The length of

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the waterway from the mouth of the Chicago river to its terminus s. of Joliet is about 42 m. Besides the advantages of the new canal for drainage it has developed about 80,000 horse-power for use in manufactures along the line.

Another problem growing out of the city's increase in population has been that of rapid transit. The surface roads proved entirely inadequate, so in 1892 an elevated road was built on the west side. In the following year another elevated road was opened, connecting the World's Fair grounds on the south with the heart of the city. Another has been added extending to the northward. These roads are equipped with electricity as the motive power.

The great influx of workingmen required to build the exposition buildings, followed by the commercial depression in the summer of 1893, resulted in unusual distress the ensuing winter. It was estimated at one time that not less than 100,000 men were walking the streets in search of work. A Central Relief Association was formed, and the churches and organized charities gave substantial aid. At a soup kitchen established at the Lake Front 4,000 were fed daily. Strangers were sent back to their homes and the distress of the poor of the city relieved.

In common with other large cities Chicago has experienced a wave of civic reform. The visit of William T. Stead, the eccentric London editor, in 1894 served to call attention to the need. Most valuable has been the work of the Civic Federation. This organization raised \$50,000 to investigate election frauds in 1894, resulting in a sweeping purification of methods. A civil-service law, backed by the Federation, has been passed, which has in a large measure taken the control of city employees out of the hands of politicians, and made appointments, advancements, and removals dependent upon merit.

Previous to 1889, July 15, the territory of C. was but 47 square miles; on that day additions were made aggregating 127 square miles, including the towns of Jefferson, Lake, and Hyde Park. More recent additions have extended the area to 188 sq. m., making it second in area only to the Greater New York among the cities of the western hemisphere.

CHICAGO, UNIVERSITY OF: educational institution, of Baptist origin and under Baptist control, but undenominational in courses of study and administration. The first Univ. of Chicago, founded 1857 on a gift of land by Hon. Stephen A. Douglas, closed for lack of funds 1886. The present Univ. of Chicago was founded 1891 by John D. Rockefeller, of New York, who gave \$600,000 of its original endowment of \$1,000,000, and contributed in all \$2,600,000 before the work of instruction began. The univ. opened 1892, Oct. 1, with 120 instructors and 700 students. At the end of 1892 the following buildings were finished: Cobb Lecture Hall, costing \$150,000; three dormitories accommodating 200 students and costing \$165,000. There were also in process of construction a chemical laboratory, \$150,000; biological laboratory, \$150,000; physical labora-

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tory, \$150,000; three dormitories for women, viz., Kelley Hall, \$50,000; Beecher Hall, \$50,000; Foster Hall, \$60,000; dormitory for men, \$50,000; Rust Hall (commons and dormitory), \$50,000, gift of Major H. A. Rust.

In 1895, Nov., Mr. Rockefeller gave the univ. \$1,000,000 unconditionally for endowment, to be paid in 1896, and \$2,000,000 additional to be paid only in instalments equal to contributions that others might make prior to 1900. Further large gifts were made by Mr. Rockefeller and others, and Mr. Rockefeller's gifts in 1902 brought his benefactions up to more than \$7,000,000. The University Astronomical Observatory at Lake Geneva, Wis., is a gift of Charles T. Yerkes.

According to its charter, the aim of the univ. is to give facilities for higher education to both sexes, to erect and maintain schools of literature, law, medicine, technology, music, and the fine arts; and to confer degrees. The univ. is governed by a self-electing body of 21 trustees, by the president, a university council, and the university senate. The president is the executive head of the univ. in all its departments. The university proper includes the graduate school of arts and literature, the Ogden (graduate) school of science, the divinity school, the schools of law, medicine, technology, fine arts, and music, and the colleges of arts, literature, and science. Examinations are required for admission in Latin, Greek, mathematics, English, history, physics, chemistry, biology, German, and French. Of these all but Greek, chemistry, biology, and one modern language are indispensable. Degrees A.B., Ph.B., and S.B. are given after the satisfactory completion of a range of studies covering practically a four-years' course. The degree A.M. is given after a postgraduate course of one year and an examination; the degree Ph.D. after three years of postgraduate work at the univ., an examination, and the submission of a printed thesis. No honorary degrees are conferred.

The academic year is divided into four quarters, beginning on the first day of July, October, January, and April, each closing with a "convocation," analogous to the annual "commencement" of most universities.

In 1897, the instructors numbered 187; students 1,928. The univ. has 23 buildings, valued at \$1,750,000, and 325,000 books in the library. The president is William Raines Harper, D.D., LL.D. The divinity school, formerly the Baptist theol. seminary, had 16 instructors, 321 students; endowment \$400,000, buildings and grounds \$165,000; vols. in library 40,000.

In 1902 the instructors numbered 276, students, 4,550; volumes in the library, 320,000; and graduates, 1,942. The grounds and buildings were valued at \$4,135,640; scientific apparatus, \$391,700; productive funds, \$4,135,083; and benefactions, \$2,575,492; president was William Raines Harper, D.D., LL.D., Ph.D.

CHICANE—CHICK.

CHICANE, n. *shī-kān'*, or CHICAN'ERY, n. *-ér-i* [F. *chicaner*, to wrangle or pettifog it: F. *chic* and *chique*, a little bit]: mean or unfair artifices to obscure the truth; sharp practice; trick; sophistry; wrangling: V. to use shifts or artifices. CHICA'NING, imp. CHICANED', pp. *-kānd*. CHICA'NER, n. one who. Note.—CHICANE meant originally the game of the mall; then a dispute in games, particularly in the game of the mall; and finally, sharp practice in lawsuits. In the first sense, *chicane* is represented by a mid. L. word, *zīcānum*, formed from mediæval Gr. *tzukan'ion*, a word of Byzantine origin—see Brachet.—SYN. of 'chicanery': trick; stratagem; sophistry; quibble.

CHICH, or CHICK, n. *chīk* [F. *chiches*, chick-peas—from L. *cicer*, the chick-pea]: the vetch or dwarf-pea; tares; the *Vicia sativa*, ord. *Leguminosæ*, sub-ord. *Papiliōnacēæ*. CHICK'LING, n. same sense as chick. CHICKEN-POX, a mild eruptive disease among children, so named from the indistinct resemblance of the eruption to chick-peas. CHICK-PEA, a variety of pea or vetch; the tare.

CHICHEN, *che-chēn'*: town of Central America, in the n.e. of the peninsula of Yucatan, which separates the Gulf of Mexico from the Caribbean Sea; 18 m. s.w. of Valladolid. It is one of the principal towns of the state, and is notable chiefly for the remains of an ancient city.

CHICHESTER, *chīch'ēs-tēr*: municipal (ex-parliamentary) borough and episcopal city in Sussex, England; 17½ m. e.n.e. of Portsmouth. It stands on a plain between an arm of the sea and the South Downs, which rise gently on the north. It is well built, and has wide streets. The two main streets cross at right angles, and meet in an elaborately-worked eight-sided cross. Within the suburbs the city is surrounded by an ancient wall, 1½ m. in circuit, with some semicircular bastions—all now a promenade under the shade of elms. The cathedral erected in the 12th and 13th c., on the site of a wooden one founded 1108, and burned 1114, measures 410 by 227 ft., with a spire 300 ft. high. The aisles are double—a mode of construction seen nowhere else in Britain. The cathedral has a rich choir, and portraits of the English sovereigns from the conquest to George I., and of the bishops down to the reformation. The chief trade is in agricultural produce and live-stock. There are malting, brewing, and tanning establishments. The harbor, 2 m. s.w., is a deep inlet of the English Channel, of about 8 sq. m.; has several creeks and Thorney Isle; and is connected with C. by a canal. C. was the Roman *Regnum*, and has afforded Roman remains—as a mosaic pavement, coins, urns, and an inscription of the dedication of a temple to Neptune and Minerva. C. was taken and partly destroyed, 491, by the south Saxons. It was soon rebuilt by Cissa, their king, and called Cissancaster, or Cissa's Camp. It was for some time cap. of the kingdom of Sussex. In 1642, the royalists of C. surrendered to the parliamentarians, after a siege of ten days. Pop. (1881) 9,652; (1891) 8,114.

CHICK, n. *chīk*, or CHICK'EN, n. *-ēn* [imitative of the

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cry: Dut. *kieken*: AS. *cicen*, a chicken: compare Hung. *tyuk*, a hen]: the young of the domestic cock and hen; a child; a word of endearment. CHICKEN-HEARTED, a timid; cowardly; fearful. CHICK'LING, n. a small chick.

CHICK, v. *chik* [prov. Ger. *kücken*; Scot. *keek*, to peer, to look out]: in *OE.*, to germinate — applied to plants budding.

CHICKADEE, *chik'a-dē*, or BLACKCAP TITMOUSE (*Parmatricapillus*): bird common in many parts of N. America and different from the European blackcap. It is five to six in. long, and about eight in. wide with wings spread; colors, black, gray, and brown, touched with white on the tail and wings. It is useful in destroying canker worms and other insects, and attractive by its cheerful and familiar manners and by the peculiar note which gives its name. Since the English sparrow's advent the C. is less abundant. It shares with others the name snowbird.

CHICKAHOMINY, *chik-a-hōm'i-nī*, BATTLES OF THE: 1862, May 31—July 1, and 1864, June 3; on Chickahominy river, e. of Richmond, Va. The Chickahominy rises about 20 m. n.w of Richmond, Va., flows s.e. 50 m., midway between the Pamunkey and the James, and parallel to them, turns s. for 20 m., and empties into the James 10 m. w. of Williamsburg, and 40 m. s.e. of Richmond. In the part of its course nearest Richmond, from Bottom's Bridge to Meadow Bridge, 15 m. n.w., it flows through a wooded swamp bordered by soft bottom lands. Its channel, 35 ft. wide and four ft. deep, is often nearly dry, but is easily filled and overflowed by rains. The spring of 1862 was rainy, and the ground hardly fit for infantry, and impassable for cavalry, artillery, and trains.—The Army of the Potomac under McClellan landed at Fortress Monroe, 1862, Mar.—Apr. 2; Richmond was its objective point. The James river was barred by the ironclad *Merrimac* (destroyed May 11), and McClellan determined to move up the peninsula, some 60 m. long and 12 m. wide, between the York and James rivers. Stopped by Confederate defenses under Magruder, he besieged Yorktown (q.v.), which was defended by J. E. Johnston with 53,000 men against the Federal 112,000. The firing was to begin May 6, but May 4 Johnston evacuated Yorktown and moved with his stores toward Richmond. The Confederate rear was attacked May 5 by Hooker, and defended by Longstreet, who, though driven from his work toward evening by Hancock, had delayed pursuit long enough to secure the escape of his trains.— McClellan, advancing slowly, came, May 20, within six miles of Richmond, and might perhaps have taken it, for it was poorly defended by 54,000 men; but he much overestimated the enemy's force, and waited for McDowell's 32,000 to join him; this had been promised by govt., but fear of Jackson in the Shenandoah valley prevented the fulfilment. May 25, he heard of 13,000 N. C. troops on his right and rear, and sent Fitz John Porter to dislodge them; this was done May 27 at Hanover Court-house (q.v.), but after

CHICKAHOMINY.

some loss they made their way to Riehmond.—The battles of Seven Pines and Fair Oaks (q.v.) were fought less than a mile apart at the same time, May 31. The object of the Confederate attack was to overwhelm Keyes's and Heintzelman's corps, on the Union left, before they could succeed: this failed, and Johnston was badly wounded. June 1, the Confederates retreated. The loss to both sides was heavy, but the result was in Riehmond considered a defeat, and the city, having as yet no considerable defensive works, might have fallen before a prompt attack. McClellan, however, occupied himself with building earthworks and bridges, of which by June 20 seven were completed and four nearly so. Stuart's cavalry, June 13, raided entirely around the army with the loss of but one man, and destroyed some stores at White House on the Pamunkey.—Jackson had now joined Lee, and each side meditated an attack. Richmond was ill-provisioned and in no condition to bear a siege, so McClellan must be driven away. June 25, when all his force but Porter's corps had crossed the Chickahominy, a slight engagement occurred at King's school-house. June 26, an attack of A. P. Hill at Mechanicsville (q.v.) or Beaver Dam, n. of the Chickahominy, was repulsed with loss.—McClellan had now determined to change his base from the York to the James, and the troops were moved on the night of the 26th. Lee attacked Porter at Cold Harbor or Gaines' Mill (q.v.), June 27, and a Union rout was barely prevented by the brigades of French and Meagher. Yet the loss was heavier on the side of the victors, who called this the battle of the Chickahominy.—McClellan was now between the two sections of Lee's army, who had but three days' rations in a country which could afford no supplies, and he might have reached Riehmond in five hours, but he continued his movement to the James. A small action ensued at Savage's Station, and a heavier one at Frazier's Farm (q.v.), or Charles City Cross Roads, both June 30, the former accompanied by an abandonment of Union works and a great destruction of stores; the latter caused a loss of near 2,000 on each side.—July 1, in a strong position at Malvern Hill (q.v.), McClellan with 90,000 men was attacked by Lee with 60,000, the divisions of A. P. Hill and Longstreet being exhausted by the previous day's fight. The Confederates were repulsed with twice the loss which they inflicted, and were again at a disadvantage, had they been pushed. But McClellan moved to Harrison's Landing, intrenched himself, and begged for reinforcements; in Aug., abandoning efforts on Riehmond, he withdrew to the Potomac.—In these engagements of this last week his reported losses were 1,582 killed, 7,709 wounded, and near 6,000 missing; those of the Confederates, 3,150 killed, 15,255 wounded, and 1,000 prisoners. All this bloodshed gave no result, though meantime the fate of the Confederate capital, and with it that of the war in Va., were trembling in the balance.—1864, June 3, the second battle of Cold Harbor (see COLD HARBOR, SECOND BATTLE OF) was fought. Lee was intrenched there, and

CHICKAMAUGA—CHICKAREE.

Grant, then lieut. gen., attacked him from the same quarter whence Jackson had marched on Porter, but was repelled with heavy loss. At this time he wrote the dispatch, 'I propose to fight it out on this line if it takes all summer.' Both armies remained on the Chickahominy till June 12, and then moved to the James. For separate battles indicated in the above outline, see the titles referred to.

CHICKAMAUGA, *chik-a-maw'ga*, BATTLE OF: 1863, Sep. 19-20, on Chickamauga creek, 12 m. s.w. of Chattanooga, Tenn. Gen. Rosecrans, commanding the Union Army of the Cumberland, 55,000 strong, had occupied Chattanooga, and pursued Gen. Bragg, whom he supposed to be in retreat toward Ga. Bragg stood, awaiting Longstreet, and desiring to get possession of the road to Chattanooga, then held by Gen. Thomas, commanding the left wing. The first day's conflict was fierce but indecisive. In the night Thomas strengthened his position and received reinforcements, while Longstreet joined Bragg. On the 20th the fight continued with equal vigor till, by Gen. T.J. Wood disobeying or misunderstanding an order of Rosecrans, a gap was opened in the Union line, through which the Confederates poured, cutting off the Federal right and centre and driving them back in confusion. Rosecrans withdrew to Chattanooga, and announced his defeat to Washington. Thomas, however, held his ground, formed his line into a crescent, its flanks supported by spurs of the mountain, repelled repeated assaults from twice his force, and earned the title, 'Rock of Chickamauga.' Gen. Gordon Granger, cut off from the rest of the army and unwilling to retreat, made his way without orders to Thomas, guided by the sound of the firing, and observed a gap in the rear toward which the Confederates were moving; Steedman's cavalry brigade was sent, 3.30 P.M., to anticipate them there, and succeeded by severe fighting in taking the gap. Longstreet's attacks ended 5.30 P.M. Thomas, with ammunition nearly exhausted, retired during the night to Rossville, where he offered battle, and 24 hours later to Chattanooga. The Federals lost 1,644 killed, 9,262 wounded, and 4,945 prisoners, with 36 guns, 8,500 small arms, etc. Bragg had 1,394 killed, 8,974 wounded, and 882 missing. Longstreet's losses would swell these numbers to some 18,000. About 50,000 confederates were engaged; their victory was barren, for Chattanooga, their objective point, was not taken. The honors of the battle belonged to Thomas, who averted a crushing Federal defeat. A month later Rosecrans was superseded by Grant: see CHATTANOOGA.

CHICKAREE, *chik'a-rē*: the red, pine, or Hudson-bay squirrel (*sciurus Hudsonius*). It has a body seven to eight in. long, of mixed black, gray, and red, resembles the common squirrel of Europe (*S. vulgaris*), and is found in great abundance through the northern states. It frequents clearings and shows little fear of man, but is less easily tamed than the gray squirrel. Its flesh is esteemed for tenderness and flavor.

CHICKASAW BLUFFS—CHICKASAWS.

CHICKASAW BLUFFS, *chik'a-saw*, BATTLE OF: 1862, Dec. 29, during the siege of Vicksburg, Miss. Unable to assault the city in front, Gen. Sherman sent a force ten m. up the Yazoo to land, march down from the n., and attack in rear. On the way they came upon Chickasaw Bayou, setting out from the river, bordered by a swamp, and defended by batteries and rifle-pits. Endeavoring to force a passage, the Union troops were driven back with a loss of 192 killed; 982 wounded, and 756 missing; total 1,930. The Confederate loss was slight.

CHICKASAWS, *chik'a-sawz*: Indian tribe now settled in the Indian Territory, on a reservation of 6,840 sq. m., on the Red river. They believed themselves to have come from the west with the Creeks and Choctaws, guarded by a dog (which was drowned in crossing the Mississippi), and guided by a pole which was planted at night and in the morning leaned in the direction they were to take. Thus led, they reached the n. point of what is now Miss., where De Soto found them, 1540; he wintered there, and had difficulties with them in the spring. They were said to have numbered 10,000 warriors, but in 1720 were reduced to 450, living in four adjoining towns, divided into five clans, and more or less governed by a king or *mico*. English traders had won their friendship before the French settled La., and they were always hostile to the latter, who made efforts to crush them, 1736, 39. They were on good terms with Oglethorpe, and made a tariff of trade, 1765, with gov. Johnstone of w. Fla. By a treaty at Hopewell, 1786, the United States govt. fixed the Ohio as their n. boundary. They had then some 1,000 warriors. They helped the settlers against the Creeks, 1793, and remained steadily friendly. They ceded their lands n. of Miss., 1805, '16, '18, for annual payments; prior to these dates some of them had removed to the Arkansas. Those remaining in Miss., 1822, numbered 3,625, living in eight villages, and were sufficiently civilized to sell hogs and cattle and to own slaves. When the govt. desired to move all Indians across the Mississippi, they ceded by two treaties of 1832, Oct. 20, and 1834, May 24, all their remaining lands, 6,442,400 acres, for \$3,646,000. They lost 500 or more by small-pox during their migration. Wishing to settle on lands of the Choctaws, whose language is the same, they agreed to form part of that nation, and paid \$530,000 for a section on the Red river w. and s. of the Washita. Many of them scattered beyond this region, and a few of their more progressive men acquired large estates and became cotton-planters with many slaves. Their annuity of \$60,000 was favorable to laziness, and they had no school till 1851. Dissatisfied with their political condition, they appealed to the president, and by treaty of 1855, June 22, dissolved their union with the Choctaws and gained a full title to their district. After this they made rapid progress, checked by the civil war, in which they sided with the South.. Their rights, forfeited by rebellion, were restored on certain conditions by treaty of 1865, Sep.; and by another, 1866, Apr. 28, they surrendered

CHICKEN-POX—CHICK PEA.

near 7,000,000 acres at 4½ cents an acre, the money to go to their former slaves unless adopted into the tribe. Neither alternative pleased them, but they accepted the latter, 1873, Jan. 10. The nation is governed by a chief and a legislature. Their constitution secures absolute freedom of speech and worship, and gives a vote to every reliable member of the tribe. They maintain a supreme, circuit, and county courts. The principal occupation is the cultivation of corn and cotton. There are besides denominational mission schools, several boarding academies, and a number of other schools. The tribe also sends many youth to other parts of the country for higher education. The Chickasaw capital is Tishomingo. According to the census of 1900 there was on the reservation a pop. of 139,260.

CHICK'EN-POX: contagious febrile disease, chiefly of children, and bearing some resemblance to a very mild form of small-pox (q.v.). C. is distinguished by an eruption of vesicles or blebs, which rarely become pustular or yellow, and leave only a very slight incrustation, which falls off in a few days, without any permanent mark or pit, as in small-pox. From its vesicular character, it has been called the *crystal pock*. It has been argued that C. is, in fact, only small-pox modified by previous vaccination; but this opinion, though maintained on good authority, is not generally received by medical men. It is a disease of little or no danger, the fever being often hardly perceptible, and never lasting long.

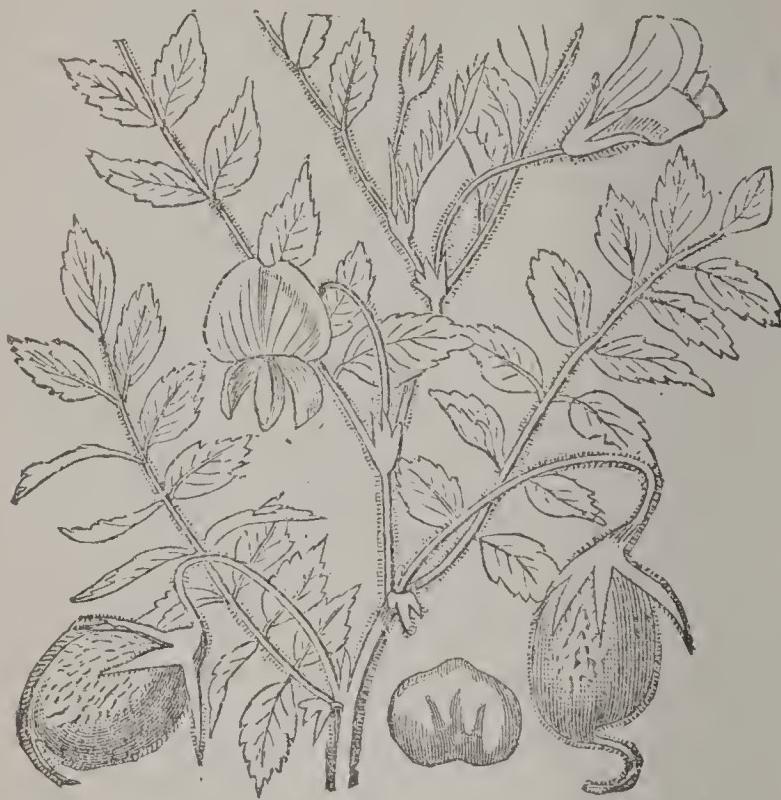
CHICKEN SNAKE: see MILK SNAKE.

CHICKERING, *chik'er-ing*, JONAS: 1798, Apr. 5—1853, Dec. 8; b. New Ipswich, N. H.: pianoforte-maker. A blacksmith's son, he learned cabinet-making, but early developed a musical turn, and was employed, 1819, in a piano manufactory in Boston. He began business for himself, 1823, and had John Mackay for a partner 1830–41. He introduced many improvements, gained the highest reputation for his instruments, and produced in later years 2,000 annually. His large gains were freely expended in quiet beneficence. His shops were burned 1852, and he began on a five-acre lot a new building, which was completed and used by his sons.—He died in Boston.—His eldest son, Thomas E. C. (1824–71) was col. of the 41st Mass. vols. 1862–65.

CHICK PEA (*Cicer*): genus of plants of the nat. ord. *Leguminosæ*, sub-ord. *Papilionaceæ*, having pinnate leaves; solitary, axillary, stalked flowers; and two-seeded pods, inflated like bladders. The common C. P. (*C. arietinum*) grows wild in the cornfields of the countries around the Mediterranean sea, and in many parts of the east. It is an annual 1½–2 ft. high, of a stiff, upright habit, covered with glandular hairs. The seeds abound in farina, and have a slightly bitterish taste. They are about the size of common peas, curiously wrinkled, so that they have been thought to resemble a ram's (*arietis*) head. They are used as food, either boiled or roasted, and are the most common *parched pulse* of the east. They are an important article of French

CHICKWEED.

cookery. They have been in general use from the earliest times, and the plant is extensively cultivated in Egypt, Syria, India, the s. of Europe, etc. Its cultivation extends as far n. as the southern parts of Germany; but in the climate of Britain it is found too tender to be a profitable crop. It is the *Grain* of India, and the *Garrance* of the French, whence the English name *Caravances*. The herbage



Chick Pea (*Cicer arietinum*).

affords nutritious food for cattle, and the seeds are one of the occasional substitutes for coffee. In great summer heats, drops exude from this plant, which, on drying, leave crystals of almost pure oxalic acid.

CHICK'WEED (*Stellaria media*): one of the most common weeds of gardens and cultivated fields; a species of STITCHWORTH (q.v.). It is a native of most parts of Europe and of Asia, appearing during the colder months even on the plains of India; an annual, with a weak procumbent stem and ovate leaves, very variable; some of the smaller varieties in dry, sunny situations sometimes puzzling young botanists, from having only five or three instead of ten stamens; but always characterized by having the stem curiously marked with a line of hairs, which at each pair of leaves changes from one side to another, and in four changes completes the circuit of the stem. The leaves of C. afford a fine instance of the *sleep of plants*, closing up on the young shoots at night. C. is a good substitute for spinach or greens, though generally little regarded except as a troublesome weed, or gathered only by the poor to make poultices, for which it is very useful, or for feeding cage-

CHICLANA—CHICOPEE.

birds, which are very fond both of its leaves and seeds. A number of species of a nearly allied genus, *Cerastium*,



Chickweed (*Stellaria media*):

a, branch with leaves and flowers, reduced; b, a flower; c, parts of fructification.

natives of Britain, also bear the name of C., or MOUSE-EAR C., and the name is occasionally given to other plants, either botanically allied, or of somewhat similar appearance.

CHICLANA, *chē-klā'nā*: pretty town of Andalusia, Spain, 12 m. s.e. of Cadiz. It manufactures linen, earthenware, and brandy. The mineral baths are much frequented. Pop. 12,500.

CHICOPEE, *chik'pē*: city of Hampden co., Mass., on the left bank of the Connecticut and at the mouth of C. river, 95 m. w.s.w. of Boston and 3 m. n.w. of Springfield, with which it is connected by the Conn. River railroad; formerly known as Cabotville. It contains the villages, C. Falls and C. Centre, not quite 2 m. apart, both of which are supplied with water-power by the C. river. The industries of C. Falls embrace three cotton mills of the C. Mfg. Co., with 75,000 spindles; Taylor & Belchor Co.'s manufactory of agricultural implements; C. W. Whittimore's manufactory of the same; the Lamb Knitting Co.; the Overman Wheel Co., mfrs. of Victor bicycles and tricycles; a large bleachery; and a rifle manufactory. The industries of C. Centre include the Dwight Mfg. Co., running seven mills for the manufacture of plain and fancy cotton goods, with 120,000 spindles; the Ames Mfg. Co., doing a large business in machinery and bronze statuary; the Ames Sword Co.; the Gaylord Co., also mfrs. of swords; two brass foundries; and a bobbin and a reel factory. C. Centre is lighted by electricity and has a free public library. Both villages in 1888

CHICORY.

were connected with Springfield by street cars. Pop. (1870) 9,607; (1880) 11,286; (1890) 14,050; (1900) 19,167.

CHICORY, n. *chīk'ōr-ī* [F. *chicorée*—from L. *cichōriūm*, chicory or endive: It. *cicoria*]; written also **SUCCORY** (*Cichorium*): genus of plants of the nat. ord. *Compositæ*, sub-ord. *Cichoraceæ*, distinguished by bracts in two unequal

rows, the outer always reflexed, the inner latterly becoming so, a nearly naked receptacle, obovate striated achenia, and a pappus of two rows of minute scales. The species are few in number, herbaceous plants, full of milky juice, natives chiefly of the warmer temperature regions of the eastern hemisphere. **CHICORACEOUS**, a. *chīk'ō-rā'shūs*, pertaining to or having the qualities of chicory. The common C., or **SUCCORY** (*C. Intybus*), is a perennial plant, growing wild in waysides, borders of fields, etc. It has a long, carrot-like root, externally of a dirty or brownish yellow color, and white within. The stem rises to the height of 2-5 ft., branching; the leaves are *runcinate*, resembling those of the dandelion; the flowers sessile, axillary, in pairs, rather large, beautiful, generally blue, more rarely pink or white. C. is extensively cultivated in England and on the continent of Europe, for its roots. It is cultivated also for its leaves as food for cattle. The blanched

leaves are sometimes used as a salad, and they are readily procured in winter by placing the roots in a box with a little earth in a cellar.—To this genus belongs also the **ENDIVE** (q.v.).

C. has been used as a substitute for coffee, or to mix with coffee, for at least a century. The roots are pulled up, washed, cut into small pieces, and dried on a kiln, which leaves a shrivelled mass not more than one-fourth the weight of the original root. It is then roasted in heated iron cylinders, which are kept revolving as in coffee-roasting, during which it loses about 25 to 30 per cent. of its weight, and evolves at the same time a disagreeable odor, resembling burned gingerbread. An improvement to the C. during roasting is the addition of 2 lbs. of lard or butter for every cwt. of C., which communicates to it much of the lustre and general appearance of coffee. It is then hand-picked, to remove chips of wood, stones, etc., and is reduced to



Chicory Root.

CHICOUTIMI—CHIDE.

powder, and sold separately as *C. powder* or *C. coffee*, or is added to ordinary ground-coffee, and is sold as a mixture. *C.* contains a good deal of sugar, but otherwise does not serve to supply the animal economy with any useful ingredient. It gives a deep brown color to water, when an infusion is made, and hence its main use in coffee. Some people dislike the taste of *C.*, and when largely used, it has a



Chicory.

tendency to produce diarrhea; but many people prefer to use coffee mixed with *C.* partly for its taste, but mainly for the appearance of strength which it gives to the coffee. The *C.*, used as an adulteration, is itself liable to adulteration; and roasted beans, pease, carrots, parsnips, mangold-wurzel, acorns, horse-chestnuts, biscuit, oak-bark tan, logwood and mahogany dust, and even the livers of horses and bullocks, are said to be employed in its adulteration.

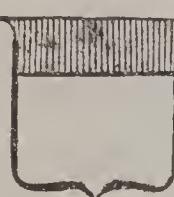
CHICOUTIMI, *shē-kō-tē-mē*: county of the province of Quebec, Canada, on both sides of the Saguenay river, and extending as far w. as Lake St. John, lat. 48° n.; 23,759 sq. m. Much of the country is unsettled and rough, but there are vast pine forests, from which quantities of timber are exported to England. Pop. 17,493, nearly all Rom. Catholics of French descent. The capital, chief town, and port is Chicoutimi, on the right bank of the Saguenay, 75 m. from its mouth.

CHIDE, v. *chīd* [AS. *cīdan*, to scold: Swiss, *kīden*, to resound as a bell]: to reprove by words; to scold at; to rebuke; to quarrel; to drive from or away with reproof: N. a gentle noise. **CHID'ING**, imp.: N. in *OE.*, contention; quarrel; a shouting, clamorous noise: ADJ. brawling; sounding roughly and loudly. **CHID**, pt. *chīd*, or **CHODE**, pt. *chōd*, quarrelled. **CHIDDEN**, or **CHID**, pp. *chīd'n.* **CHID'INGLY**, ad. -ly. **CHIDER**, n. *chī'dér*, one who.—**SYN.** of 'chide, v.': to blame; censure; reprove; rebuke; reprehend; reprimand; reproach.

CHIEF—CHIETI.

CHIEF, a. *chēf* [F. *chef*; OF. *chief*, the head or highest point—from L. *caput*, the head: It. *capo*; Ger. *kopf*; Dut. *cop*, a cap, a head]: at the head or top; highest; principal; the most eminent or distinguished; the most important; most valuable; first: N. a commander or leader; the head man of a clan, or tribe, or family, or the clan name. CHIEF'LY, ad. *-lī*, especially; mainly; principally; in the first place. CHIEF'LESS, a. without a leader. CHIEFTAIN, n. *chēf tāin* [OF. *chevetaine*—from mid. L. *capitānus*; a captain]: a leader; the head of a clan or family; strictly, the head of a branch of a clan. CHIEFTAINCY, n. *-tāin-sī*, and CHIEFTAINSHIP, n. the government over a clan. CHIEF-JUSTICE, the principal judge of a court; presiding judge in the U. S. supreme court; also of the highest courts in nearly all the states (see JUDICIARY): in England, see JUSTICE, LORD CHIEF.—SYN. of ‘chief, a.’: principal; main; leading; cardinal; capital; first; paramount; prime; supreme; master; eminent; great; vital; especial; grand;—of ‘chief, n.’: chieftain; leader; head; commander; principal;—of ‘chiefly’: primarily; principally; especially; particularly.

CHIEF, in Heraldry: an ordinary formed by a horizontal



line, and occupying the upper part of the escutcheon. Like the other honorable ordinaries, the C. ought properly to take up a third part of the shield; but when the other charges are numerous, the C. is frequently diminished in size.—Any object borne in the upper or chief part of the shield is said to be *in chief*, though the C. be not divided off from the rest of the field, as a separate portion.—*On a Chief*: when the object is represented on the C. divided off as above described.

CHIEL, n. *chēl*, or CHIELD, n. *chēld* [Gael. *gil'le*, a lad; AS. *cild*, a child]: in Scot. and prov. Eng., a lad; a servant—often used as expressive of disrespect.

CHIEM-SEE, *chēm-sē*: lake of Upper Bavaria, largest in the country, about 42 m. s.e. of Munich. It is more than 1,600 ft. above the sea; length 12 m., breadth 9 m.; greatest dept 500 ft. Its shape is irregular, and its coast much indented. It has three islands; the Achen and Prien flow into it, and its surplus water is discharged by the Alz into the Inn. - The C. is famous for its fish; and a small steamer which plies on it, enables travellers to view its fine scenery.

CHIERI, *kē-ā-rē*: town of Piedmont, n. Italy, on the slope of a hill 9 m. s.e. of Turin. C. is an ancient place. By the later Romans it was called Carea. The church of St. Dominico, built 1260, has some good paintings; and that of Santa Maria della Scala, built 1405, is one of the largest Gothic structures in Piedmont. C. is one of the oldest manufacturing towns in Europe, its manufacture of fustians and cotton stuffs dating from 1422. Silk, cotton, and linen are still important manufactures. Pop. 9,000..

CHIETI (Province): see ABRUZZO.

CHIETI, *kē-ā'tē*: archiepiscopal city of Italy, capital of

CHIFF-CHAFF—CHIGNON.

the province of the same name, is situated on a hill near the Pescara, about 100 m. n. of Naples. It is a well-built and flourishing place, with some imposing public edifices, including a cathedral, lyceum, and theatre; and its agreeable situation has made it the residence of numerous wealthy families. The district around is fertile and well cultivated, and in the city, the cloth and silk manufactures afford employment for a considerable number of people. A very old place, C. was built on the site of the ancient *Teate* of the Romans, many of the remains of which are still visible. In the year 1524, St. Gaetano founded here the order of the Theatines. Pop. (1881) 14,321; (1891) 25,000.

CHIFF-CHAFF, *chiff'chaff* (*Sylvia hippolais*): small species of warbler, very widely diffused; found both in England and in the neighborhood of Calcutta. It is common in the s. or Europe, is in Britain a summer bird of passage, arriving, however, very early in spring, and does not extend northward into Scotland. Its general color is brown; the under parts lighter. It is a very sprightly little bird; but its song consists merely of a frequent repetition



Chiff-chaff (*Sylvia hippolais*).

of two notes resembling the syllables *chiff-chaff*. It is called also the lesser *pettychaps*.

CHIFFONIER, n. *shif'fō-nēr'* [F. *chiffonnier*, a rag-picker—from *chiffon*, a rag]: a rag-picker; a kind of cupboard for holding scraps.

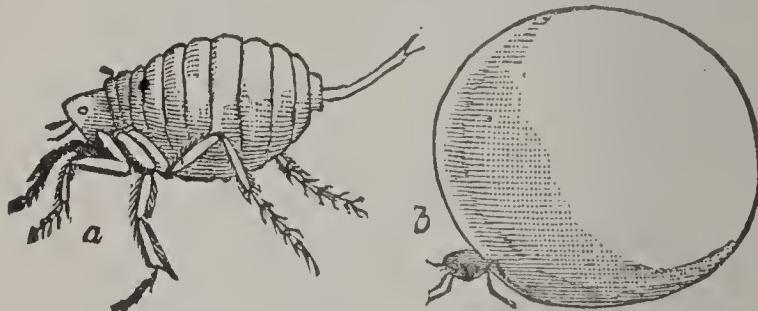
CHIGNECTO BAY, *shig-nēk'tō*: the more westerly of the two inlets at the head or n. end of the Bay of Fundy, British N. America. It separates Nova Scotia from New Brunswick, is 30 m. long and 8 broad, and has an isthmus of only 14 m. in width between it and Northumberland strait, in the Gulf of St. Lawrence.

CHIGNON, n. *shin-yōng'* or *shi-nōng'* [F., the nape of the neck]: a quantity of dressed false hair attached to the

CHIGOE—CHIHUAHUA.

back of the head—often forming part of a woman's head-dress, and resting on the back of the neck.

CHIGOE, *chigō*, or JIG'GER [see CHEGOE], (*Pulex* or *Sarcopsylla penetrans*): species of flea (q.v.), rather smaller than the common flea, and with less powerful limbs, found in the W. Indies and S. America, where it is excessively troublesome, attacking any exposed part of the human body, and effecting a lodgment between the skin and flesh, often under the skin of the foot or the nails of the toes. At first its presence is indicated only by a slight



Chigoe (*Pulex penetrans*):
a, male; b, gravid female.

itching or tingling; but an ulceration is likely soon to be the result, not only very painful, but even dangerous, when the female C. is allowed to remain and to deposit her numerous eggs. Before these are deposited, her abdomen becomes distended in an extraordinary manner, as a membranous bag, to the size of a pea. The ulcer speedily contains a great colony of chigoes. The negresses of the West Indies are very expert in extracting the C., which is removed also by washing with tobacco-juice. Rubbing with tobacco-leaves is employed as a preventive of its attacks.

CHIH-LE, *chē-lē*, or PECHIH-LE *pē-chē-lē*: one of the n. provinces of China, and the most important of the 18, as being the centre of government, and containing Pekin, the imperial capital, the residence of the emperor and court. Area, 58,949 sq. m. Pop. 17,937,000.

CHI- (or TSIN-CHI-) HOANG-TI, *chī-hwāng-tī*, or CHING WANG, Emperor of China B.C. 246–210: ‘the Chinese Napoleon,’ and the first for many centuries to assume the title *hoang*, or emperor. He found the country divided into eight feudatory states, which he subjugated and consolidated, expelling some barbarous tribes, and extending the empire nearly to its present limits. He built the Great Wall (of which some now deny the existence) by the labor for ten years of several million men, 500,000 of whom are said to have died under the task. To him is credited the first Chinese collection of statistics, with a view to equitable taxation of lands and products. In his hostility to the learned class, he rashly and vainly attempted to impair the national conservatism by destroying the ancient books.

CHIHUAHUA, *chē-wā'wā*: city of the Mexican confederation, with considerable trade between Santa Fé, in New

CHIKARA—CHILD.

Mexico, and the United States. It is in lat. $28^{\circ} 40'$ n., and long. $105^{\circ} 33'$ w., and has a cathedral, convents, and an aqueduct 3 m. long, besides 3 appropriate buildings, as the cap. of the state of its own name. Pop. of city, 12,000.

The state of C., lat. 27° to 32° n., and long. 104° to $108^{\circ} 40'$ w., is divided from Texas by the Rio Bravo del Norte. It is a table-land, more remarkable for mineral resources than for agricultural productions. It abounds in nitre and other salts, and is rich in mines of gold and silver Pop. (1889) 266,496; (1900) 327,004.

CHIKARA: see ANTELOPE.

CHILBLAIN, n. *chil'blān* [chill, and *blain*—lit., a cold-sore]: an inflammatory sore on the skin produced by cold: see CHAPPED HANDS.

CHILD, n. *child* [AS. *cild*, plu. *cildra*: Dut and Ger. *kind*, a child: Gael. *gille*, a lad]: a son or daughter: an infant or very young person; one weak in knowledge or experience of the world. CHILDREN, n. plu. *chil'drēn*, offspring; descendants; the inhabitants of a country. CHILDHOOD, n. the time in which persons are children. CHILDISH, a. like a child; trifling; ignorant; silly; implying censure when applied to a person. CHILDISHLY, ad. -*lī*. CHILDISHNESS, n. the qualities of a child in regard to conduct; simplicity; weakness of mind. CHILDLESS, a. without children. CHILDLESSNESS, n. CHILDLIKE, a. becoming or befitting a child; a word implying praise, applied to an adult. CHILDRE, n. plu. *chil'dr*, in *OE.*, the common form of the word CHILDREN. CHILD-BEARING, the act of producing or bringing forth children. CHILD-BED, the state of a woman bringing forth a child (see MIDWIFERY). CHILD-BIRTH, the act of bringing forth a child; travail. CHILD-CROWING, a spasmodic or bastard group. CHILD-KILLING: see INFANTICIDE. CHILD'S PLAY, trifling contest; light work. CHILD-STEALING: see ABDUCTION. WITH CHILD, pregnant.

CHILD, *child*, Sir JOSIAH: eminent London merchant, and one of the ablest of the earlier English writers on commerce and political economy: 1630-99; second son of Richard C., merchant, of London. His principal work is *Brief Observations concerning Trade and the Interest of Money* (Lond. 1668, 4to); 2d ed., much enlarged, entitled *A New Discourse of Trade* (1690). In this work he explains his plans for the relief and employment of the poor, including the substitution of districts or unions for parishes, and the compulsory transportation of paupers to the colonies. He was one of the directors, and for some time chairman of the E. India company, and is said to have written several tracts in defense of the trade to the E. Indies, published anonymously. In 1678 he was created a baronet.

CHILD, *child*, LYDIA MARIA: 1802, Feb. 11—1880, Oct. 20; b. Medford, Mass.: author. Her father was David Francis, a baker, whose ancestor came from England to Cambridge 1636. She married, 1828, David Lee Child (1794-1874), a Boston lawyer and journalist. Her first book, *Hobomock* (Cambridge, 1821), an Indian story, was

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written at the age of 17. *The Rebels, or Boston before the Revolution* (Boston, 1822) introduced historical characters, and credited Otis with a speech and Whitefield with a sermon which many supposed genuine. She taught a year at Medford, and at Watertown 1824–28; edited 1826–34 the *Juvenile Miscellany*, earliest American monthly for children; and wrote *The First Settlers of New England* (1829), and *The American Frugal Housewife* (1829), a cook-book which reached its 33d ed. 1855. *The History of Woman* (1832), and sundry feminine biographies followed, with an annual or two and a Greek romance, *Philothea* (1835). Under Garrison's influence she and her husband became recruits and leaders of the abolition movement. Her *Appeal for that Class of Americans called African* (Boston, 1833) was the first book of domestic origin against slavery; it won the thanks and roused the interest of Channing, and was followed by an *Anti-Slavery Catechism* and other smaller works. Her zeal in this cause never wavered: it is visible in many of her later books, and had its effect on thousands. She edited the *National Anti-Slavery Standard* in New York 1840–43, and assisted Mr. Child thereon another year, living in the family of Isaac T. Hopper, whose life she wrote 1853. Her *Letters from New York* (2 vols., 1843–45) appeared first in the *Boston Courier*. *Flowers for Children* (3 vols., 1844–46) were gathered from her *Juvenile Miscellany*. From 1849 her residence was at Wayland, Mass. Of her correspondence with John Brown, Gov. Wise, and Mrs. Senator Mason, of Va. (Boston, 1860), 300,000 copies were circulated. Among her other writings are *Fact and Fiction* (1846); *Power of Kindness* (Phila. 1851); *Progress of Religious Ideas* (3 vols., N.Y. 1855); *Autumnal Leaves* (1856); *Looking toward Sunset* (1864); *The Freedman's Book* (1865); *Miria, a Romance of the Republic* (1867); and *Aspirations of the World* (1878). She gave and labored much to aid the soldiers and the freed-men. She died at Wayland. Wendell Phillips said at her funeral, 'She was the kind of woman one would choose to represent woman's entrance into broader life.' A vol. of her letters was published 1882.

CHILDE, n. *child* [from *child*]: formerly a noble youth; a poetical epithet applied to young heroes. **CHILDERMAS-DAY**, n. *chil'dér-más*, a feast of the church held on 28th December, in remembrance of the children slain at Bethlehem by Herod—called usually *Innocents' Day*.

CHILDERMAS, *chil'dér-mas*, or **HOLY INNOCENTS' DAY**: observed by the Church of Rome, Dec. 28, with masses for the children killed by Herod. It was considered unlucky to marry or to begin any work on this day. From Fenn's *Letters* (vol. I. 234) we learn that the coronation of King Edward IV. was put off till the Monday, because the preceding Sunday was C. day. C. is also noted on the calendar of the Church of England, and of the Prot. Epis. Chh. in the United States.

CHILDREN, LEGAL CAPACITY OF: see **INFANT: MINOR: PUPIL: GUARDIAN: TUTOR**.

CHILDREN—CHILDREN'S AID SOCIETY.

CHILDREN, SOCIETY FOR THE PREVENTION OF CRUELTY TO: in New York, an assoc. of citizens incorporated under a gen. law of the legislature passed 1875 for the purpose of protecting children from cruel and intemperate parents and guardians, as well as from extreme poverty and positive neglect. Its formation was inspired by the late Henry Bergh, founder of the American Soc. for the Prevention of Cruelty to Animals. It was organized 1874, incorporated 1875, and began its beneficent work with full legislative authority to prefer and prosecute complaints against violators of the law, receiving additional authority 1876 when the legislature passed an act restricting the industries in which children may be employed. The soc. is supported wholly by voluntary contributions; co-operates with the boards of health and police in exposing and suppressing fraudulent protectories and child and day nurseries and promoting the health and comfort of children in crowded and impure tenements; guards children from those who would use them for selfish and illegal purposes; gathers the sick from baneful surroundings and places them in asylums and wholesome homes; prevents the employment of children of tender age in factories, stores, and theatres; and acts as custodian of such as are taken from parents and guardians by order of the courts. Between 1875–88 it received and investigated 32,994 complaints of cruelty, involving the care and custody of 98,982 children, prosecuted 11,282 cases, secured 10,844 convictions, and rescued and relieved 19,127 children. During the seven years the society's reception-room has been open, 4,320 children have been sheltered, clothed, and fed, the meals aggregating 34,461. The headquarters of the soc. are at 297 Fourth avenue. In 1902 the soc. had a board of 15 directors, and its secretary was F. Fellows Jenkins.

CHILDREN'S AID SOCIETY: established in New York, 1853, chiefly by Charles Loring Brace (q.v.), who was its helper and manager till his death. It was his one belief that the work of reclaiming the ignorant and vicious, to be effective, must select its subjects in tender years; his object, to care for poor and neglected children in the city, to rescue them from contaminating influences, give them the rudiments of education, and find homes and occupations for them, usually in the country. The machinery of this work has been mainly supplied through lodging-houses (of which the first, for newsboys, was established by Mr. Brace 1854); by industrial schools, in which many thousands of boys and girls have been sheltered, fed, and taught; and by the Sick Children's Mission and Summer Home, founded 1874, which has saved many lives. By consequence, as police statistics long ago showed 'vagrancy and crime among young girls has been greatly diminished, while among boys criminal offenses have not grown with the population, but have been held decidedly in check.' Simply as a measure of public economy, it is cheaper to prevent crime than to punish it, to instruct than to im-

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prison. The cost of caring for these children by the soc. has been hardly more per head than that of education alone in the pnblic schools. Some 4,000 are annually placed, mainly on the western farms, and over 2,000 enjoy the benefit of the summer home. The influence of the soc. has been great in inducing similar beneficence. Like organizations have been formed in other cities, summer excursions (often furnished by the great newspapers, see FRESH AIR FUND) have given a little fresh air and recreation to children from the tenement-houses, and public interest has been drawn to an enterprise which appeals so strongly alike to humane sympathies and to municipal self-interest.

During the year ending 1892, Nov., the soc. fed, sheltered, and taught 9,699 boys and girls at a total expense of \$61,844.35; placed in e. and w. homes 2,860 children at an expense of \$26,304.38; cared for 4,853 children in the 'Summer Home' at a cost of \$7,280.08, and 7,489 mothers and babies at the Coney Island health home at a cost of \$8,-913.70; and the various lodging-houses gave homes and employment to 1,313 boys, and 80,290 lodgings and 102,-383 meals to boys and girls. Combining the six lodging-houses, the soc. sheltered during the year 6,606 different boys and girls, and supplied 257,111 meals and 201,997 lodgings. In the 21 day and 12 evening schools 11,638 children were taught and partly fed and clothed, 579,552 meals being supplied. The total number under the charge of the soc. during the year was 35,650. Total receipts \$368,-934.87; expenditures \$340,483.56: balance \$28,451.31. In 1902 the headquarters of the society was at 105 E. 22d st. and C. Loring Brace was secretary.

CHILDS, GEORGE WILLIAM, LL.D.: 1829, May 12—1895, Feb. 3: publisher; b. Baltimore. He received a private school education; served 15 months in the U. S. navy; settled in Philadelphia 1843; worked in a book store four years; established a store of his own and began publishing books; and before reaching his 21st year was head of the firm of Childs & Peterson. In 1863 he retired from the firm and purchased the *Public Ledger* newspaper. He acquired wealth rapidly, and put it to liberal use, promoting local and public objects that appealed to his pride for his city or to his large sympathies. He was one of the originators of, and largest contributors to, the Zoological Garden, the Penn. Museum, and the School of Industrial Arts; was active in securing Fairmount Park to the city; and was earnest, constant, and efficient in his efforts to make the Centennial Exhibition a success. He erected a stained glass window to the memory of the poets Herbert and Cowper in Westminster Abbey, London; a monument over the unmarked grave of Leigh Hunt in Kensal Green; a drinking fountain and clock tower at Stratford-on-Avon 1887, and a window to John Milton in St. Margaret's Church, London 1888. He received his degree from Grant Memorial Univ. 1887.

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CHILI, *chilē* (locally CHILE, *chē'lā:*) republic in S. America, on the w. coast, between the summit of the Andes and the Pacific Ocean; bounded n. by Peru, e. by Bolivia and the Argentine Republic, w. and s. by the Pacific Ocean; since 1881 also including the coast strip between lat. 23° and 25° s., formerly belonging to Bolivia, the former Peruvian province of Tarapacá, and the larger part of Tierra del Fuego; extreme length about 2,500 m., breadth 40-200 m.: 279,901 sq. m.; pop. (1885) 2,524,476: est. (1901) 3,146,570; cap. Santiago (1901) 296,690.

Topography.—The Andes extend in two parallel lines through nearly the entire length of C., and between these ranges is a central valley or table-land, with greatest breadth 33° - 40° s. lat. The principal streams are the Maipú, which waters the valley of Santiago; the Máule; the Biobio (q.v.), the largest river in the country; the Cauten, or Rio Imperial; the Bueno; and the Callecalle, or Rio de Valdivia (100 m.), the most important of all, because of the sheltered harbor at its mouth. In the s. are many deep lakes, such as Llanquihue (30 m. long by 22 broad) and Ranco (32 m. by 18). Mineral waters, chiefly saline and sulphureous, are abundant; the principal spa is at Chillan (q.v.). The most important islands are those constituting the province of Chiloé (q.v.); Juan Fernandez (q.v.) also belongs to C. Owing to its great extension from n. to s., C. comprises regions of very different nature and climate. The north provinces, Tarapacá, Atacama, and part of Coquimbo are arid, rainless districts, where the principal industry is mining and extraction of saltpetre. The middle and southern provinces—viz. Aconcagua, Valparaiso, Santiago, Colchagua, Curicó, Talca, Lináres, Máule Nuble, Concepcion, Arauco, Biobio, and Valdivia—are agricultural and viticultural, and have also valuable coal-fields. The Patagonian region is densely wooded and sparsely inhabited by a few Indians.

Climate.—The climate of C. is temperate. In the n. it is moderately hot and rainless, but banks of clouds always hang overhead, and heavy dew falls at night. In the s. it is dry for about eight months of the year, and rainy the other four. The temperature is remarkably even and pleasant, and always cool at nights. The s. wind blows fiercely during many days of summer dry and cold, the n. wind brings heat, tempest, and rain; other winds are unknown.

Agriculture.—In s. C. generally the land is poor and of hardly any value for agriculture, which, indeed, is carried on in a very primitive fashion; but the soil of the valleys, where large herds of cattle graze, is very fertile. Vines, also, grow well on the hillsides, and the wines of the country are superseding in Chili the French red wines. The Andes are almost everywhere visible, covered with perpetual snow.

Manufactures.—Since the acquisition of the territory of the Araucanian Indians (1881) the govt. has been anxious to attract European emigrants, but British adventure in that direction has been deprecated. There is practically

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no demand for foreign mechanics, and the manufactures, properly so called, are confined to copper-smelting, sugar refining, tanning, brewing, manufactures of soap and candles, biscuits, boots and shoes, woolens, flax, and nitrates. A special effort has been made to introduce new manufacturing industries which will be protected by tariff.

Commerce.—The value of imports 1889 was \$65,000,000, and of exports \$66,000,000; a third of the imports and two-thirds of the exports were British, the German and French trade being next in importance. Mineral products represented five-sixths of the total exports. The chief articles of export were nitrate and iodine, copper, silver, gold, manganese, hides, wool, wheat, and barley. The principal imports were cotton, woollen, and jute goods, iron, hardware, coal, machinery, timber, rice, sugar, earthenware, cement, paper, beer, glassware, kerosene, tallow, matches, tea and coffee.

Railroads and Telegraph.—The railway system of C. is well developed. A govt. broad-gauge line runs from Valparaiso to Santiago, crossing the coast-range of the Andes, and thence southward through the central valley to Concepcion, and through Araucania toward Valdivia, making a total length of about 1,500 m. A branch from the Valparaiso and Santiago line also runs to Santa Rosa, at the foot of the Andes, from which a projected line, to unite with the Argentine railway system, *via* the Uspallata Pass, which it will cross at the elevation of 9,843 feet above sea-level by means of a tunnel 6½ m. in length, will afford through communication from the Pacific to the Atlantic oceans. In 1890 the aggregate mileage of railroads in operation was estimated at 1,700; mileage of telegraph system 13,730. The post-office handled 17,606,056 letters and 24,715,629 other matter.

Religion and Education.—The established religion of C. is Rom. Cath., but public opinion is now very liberal, and other religions are tolerated. Education receives much attention. By statistics 1886 there were 862 state schools, with a staff of 1,232 teachers, having 78,810 scholars on the books; there were also 532 private schools, with 27,860 scholars. In 1887 the state schools had increased by 88, and the pupils by 2,552. Govt. proposed 1888 to spend \$3,500,000 in the erection of additional school-houses. There is a first-class university at Santiago, and a lyceum in every provincial capital.

Finances.—The financial position of C. has been in general satisfactory, and its credit has stood higher than that of any other S. American state. At the end of 1887 the foreign debt amounted to about \$40,100,000, and the internal debt, including forced paper currency in circulation, to \$48,335,071. The revenue for 1890 was 58,000,000 pesos (peso=92 c.) and the est. expenditure \$67,000,000, but in this was included a large number of extraordinary expenses.

Army and Navy.—According to the milit. law of 1887 the standing army is limited to 940 officers of all grades and 5,885 men; and the national guard to 48,670 officers and men. In 1890 the navy comprised 3 iron-clad battle-

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ships, 3 corvettes, 3 rams, 2 torpedo cruisers, 2 gunboats, 2 transports, 1 protected cruiser, and 10 first-class and 2 second-class torpedo-boats. Two steel deck-protected cruisers, 1 steel armor-clad cruiser, 1 deck-armored cruiser, and 2 torpedo boats were then building. The national milit. school had 120 cadets and the naval school 90.

Government.—The constitution of C. is republican, and based upon that of the United States. Every citizen is entitled to a vote who can read and write and prove that he earns \$150 or upwards a year, and is twenty-one years of age if married, or twenty-five if single. The pres. is appointed by a body of electors chosen by the people. His term of office is five years, and his salary \$18,000 per annum. The cabinet consists of six ministers—viz., of Finance, the Interior, Foreign Affairs, War, Commerce and Public Works, and of Justice, Public Worship, and Instruction. The Council of State consists of five members nominated by the pres., and six appointed by congress. The legislature is composed of two chambers—viz., the Deputies, about 100 in number, being in proportion of one to 20,000 inhabitants; and the Senate, numbering 1 to ever 5 deputies. Deputies must have an income of at least \$500, and senators of \$2,000.

History.—The name Chili is supposed to be derived from an ancient Peruvian word signifying 'snow.' The n. portion, as far as the river Máule, formed part of the dominions of the Incas of Peru. The s. was held by the Araucanians, the only aboriginal race which was not subdued by the Spaniards, and which till within a few years maintained their independence against the Chilians. The first European to land in C. was the Portuguese discoverer Magellan, after his famous voyage through the strait which now bears his name. He landed at Chiloé, 1520. After the conquest of Peru by Pizarro, an expedition was made to C. from that country overland under the leadership of Diego de Almagro 1535. This expedition penetrated as far as the Rio Claro, but returned unsuccessful. Another was sent under command of Pedro Valdivia 1540, which succeeded in annexing the territory as far as the river Maipu. Santiago, the capital, was founded by Valdivia 1542. During the colonial period the governors of C. were appointed by the viceroys of Peru. In 1810 a revolt against the Spanish power broke out, in which Don Bernardo O'Higgins, son of one of the last viceroys of Peru, but a native of C., played a conspicuous part, and finally became the first dictator of the new republic. The conflict between the Spanish troops and the republican army continued till 1826, when peace was definitely settled, and C. left to govern itself. The first constitutional pres. was Gen. Blanco Encalada. The govt. was unsettled till 1847. A revolution broke out 1851, but since then there has been no serious attempt to overturn the govt. by force of arms. In 1864 C. gave Peru valuable support in her war with Spain. Valparaiso was bombarded by the Spaniards 1866. In 1879 C. declared war against Bolivia, and immediately thereafter against Peru,

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with which Bolivia was allied. For a time the Peruvian fleet kept the Chilians in check, but 1879, Aug., the Peruvian iron-clad *Huascar* was captured by the Chilian men-of-war *Cochrane* and *Blanco Encalada*, both armor-plated. After this event the success of the Chilians was uninterrupted. Peruvian towns were bombarded, and their other war-ships captured. Finally Lima was taken by storm 1881, June 23. The Chilians occupied Lima and Callao till 1883, Oct. 30, when a treaty of peace was signed. By this a portion of Peruvian territory (see above) was ceded to Chili.

A revolution against Pres. Balmaceda broke out 1891, Jan., and, through the defection of a large part of the army, the navy, and the congress, spread rapidly. The insurgents captured several important cities; a patriotic junta was formed; the pres. decreed the election of a new congress, which he opened in person Apr.; an act authorizing the pres. to levy a forced loan of \$20,000,000 to put down the revolution was passed; several land and naval battles were fought; a decisive engagement occurred before Valparaiso Aug. 21, which continued till the 23d, when the Balmacedists gave way; the insurgents took possession of Valparaiso 28th and of Santiago 30th; and Balmaceda killed himself Sep. 19. Municipal and legislative elections were held Oct. 18; a new congress was opened Nov. 2; and Admiral Jorge Montt, candidate of the liberal party, was elected pres. Nov. 6.

In the early part of the revolution the congressional party or anti-Balmacedists bought munitions of war in the United States. A part reached C. in time for use, but the largest consignment was shipped from San Francisco on an American vessel (Apr.), and subsequently transferred to the congressional transport *Itata*, which put to sea, carrying off a U. S. deputy-marshal, who had been placed in charge of the vessel after its seizure by a U. S. marshal. The *Itata* put the deputy on a pilot-boat, and steamed seaward. The act occasioned a diversity of opinion among the authorities at Washington, but within a few days the new cruiser *Charleston* was ordered to pursue the *Itata*, and the cruiser *San Francisco* was ordered to Chilian waters to intercept the fugitive. Fearing international complications, the congressionalists offered to surrender the *Itata* to the U. S. admiral on her arrival at Iquique, and did so. The *Itata* returned to San Diego, Cal., where a libel against the steamer was dismissed by the U. S. district court on the ground that, as the provisional govt. of the congressionalists had not been recognized as a belligerent, its agents had not violated the U. S. neutrality laws. From this decision the U. S. govt. appealed to its supreme court.

The affair of the *Itata*, and persistent allegations that the U. S. minister to C. had been unduly anxious for the success of the Balmacedists, created in the principal cities of C. a feeling of hostility against the United States. On Oct. 16, while a number of the crew of the U. S. S. *Baltimore* were on shore leave in Valparaiso, they were set upon by

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a party of Chilian sailors in a saloon, and when the Americans sought refuge in street cars they were assaulted with knives and other weapons and dragged to the street. A riot ensued, in which one American sailor was killed, one was so severely injured that he died soon afterward, 5 received dangerous stab wounds, and 15 others were slightly wounded. The police arrested 3 Chilian and 36 U. S. sailors for participation in the riot. The U. S. govt. promptly demanded an explanation and reparation, and extensive naval preparations to support the demands were made. After much correspondence C. formally apologized for the assault on the American sailors, 1892, June 23, and voluntarily paid an indemnity of \$75,000 for the victims of the riot, July 13 following.

CHILIAD, n. *kīl'i-ād* [Gr. *chiliās*, a thousand]: a thousand; a thousand years; the millennium. CHILIAGON, n. *kīl'i-a-gōn* [Gr. *gōnia*, an angle]: a plane figure of a thousand sides and angles. CHILIAHEDRON, *kīl-i-a-hēd rōn* [Gr. *hedra*, a seat, a side]: a plane figure contained by a thousand sides. CHILIARCH, *kīl'i-ārk* [Gr. *archos*, a leader]: the general or commander of a thousand men. CHILIAST, *kīl'i-āst* [Gr. *chiliastēs*—from *chilias*, a thousand]: a millenarian; one who believes in the doctrine of a literal millennial coming and reign of Christ in visible form upon earth: see MILLENNIUM.

CHILIAN, a. *chīl'i-ān*: pertaining to *Chili*: N. a native. CHILENOS, n. plu. *chīl-e'nōz*, the people of Chili.

CHILIASM, *kīl'i-āzm*: doctrine of the personal reign of the visible Christ on earth during the millennium. Those holding this doctrine are called *Chiliasts*; and such views are termed *Chiliastic*: see MILLENNIUM.

CHILI NETTLE: see LOASACEÆ.

CHILKAT PASS—CHILLICOTHE.

CHILKAT, or DALTON PASS: a route in Alaska, formerly used by J. Dalton, a trader, as a pack train route and for driving cattle, but later by miners to reach the gold fields of the Klondike. This pass follows a direct course, more or less independent of waterways, from Chilkat Inlet to Fort Selkirk; crosses the Chilkoot Pass, and joins other routes at Fort Selkirk; and is preferred because it is less difficult than the road over CHILKOOT PASS (q.v.).

CHILKOOT PASS: a difficult pass over the mountains in the n. part of Alaska, which was traversed by thousands of gold-seekers in 1897-98. It is the most direct route to Dawson City, the starting point to the Klondike region, and the shortest to the Yukon district. The difficulties and dangers attending the route are many, and the steepness and roughness of the ascent have proved fatal in many instances. Early in 1898 an aerial railway was completed over the pass to Lake Linderman, which shortens the time from a month to a day, and removes the perils and hardships of former travel. The pass was formerly the old trail used for generations by the Indians, and for many years was the only one taken by miners and prospectors to reach the interior.

CHILLAN, *chēl-yān'*: town of Chili, cap. of the province of Nuble, between the Nuble and Chillan rivers, about 120 m. n.e. of Concepcion; lat. $35^{\circ} 56'$ n., long. $71^{\circ} 37'$ w. It was founded by Ruiz de Gamboa 1594, devastated by the Moluche Indians, 1601, by the Puelches and an earthquake 1657, again by an earthquake 1751, and by an inundation 1797. Removed after the last disaster to La Horca, it was overthrown by another earthquake 1835, and rebuilt on its present site 1836.

CHILLIANWALLA, *chēl-yān-wāl'la*: village of the Punjab; 5 m. from the left or e. bank of the Jhelum, the most westerly of the five rivers which give name to the country. It is in lat. $32^{\circ} 40'$ n., and long. $73^{\circ} 39'$ e.; 85 m. n.w. of Lahore. C. claims notice as the scene of Lord Gough's dearly-won victory, over the Sikhs, 1849, Jan., also as the site of an obelisk erected to the memory of those who fell in the two Sikh wars.

CHILLICOTHE, *chīl-lī-kōth-cē*: city, cap. of Livingston co., Mo.; 76 m. e. of St. Joseph, 130 m. w. of Hannibal, 95 m. n.e. of Kansas City, and abt. 3 m. n.e. of Grand river, on the Hannibal and St. Joseph railroad at the junction with the C. and Omaha Branch railroad and the Brunswick and C. railroad. It is the principal city in the Grand River valley and the largest on the railroad between Hannibal and St. Joseph; has 10 churches, three flour mills, three newspapers, two banks, two planing mills, a foundry and machine shop, graded public schools, an academy, and a convent. There is an abundance of coal and timber in the vicinity. Pop. (1870) 3,978; (1880) 4,078; (1900) 6,905.

CHILLICOTHE—CHILLINGWORTH.

CHILLICOTHE, *chil-li-kōth'ē*: city, cap. of Ross co., Ohio; on the right bank of the Scioto river, 50 m. n. of Portsmouth and 50 s. of Columbus, by the Scioto Valley railroad; 96 m. e. by n. of Cincinnati by the Cincinnati Washington and Baltimore railroad; also on the Ohio and Erie canal. It was founded 1796, Aug. by Nathaniel Massie and emigrants from Ky., and was soon thickly settled with Virginians. C. was the state capital 1800–10 and 1813–16, Zanesville being the capital 1811–12. It is pleasantly situated in a valley inclosed by hills nearly 500 ft. high. Paint creek borders it on the s., and flows into the Scioto 3 m. below. C. has six wards and is governed by a mayor and 12 councilmen; the streets are wide, regular, and lighted by electricity. It has a court-house which cost \$100,000, water-works which cost \$75,000, five brick school-houses, two Rom. Cath. schools, a commercial college, 13 or more churches, six newspapers, three national banks and one savings bank, three flour mills, two shoe factories, one furniture factory, and manufactories of carriages and wagons, farm implements, paper, etc. The Cincinnati Washington and Baltimore railroad has its shops there. The Scioto *Gazette* has been published longer continuously than any paper n.w. of the Ohio river—since 1800, Apr. 25; and was established by Nathaniel Willis, grandfather of N. P. Willis. Pop. (1870) 8,920; (1880) 10,928; (1890) 11,288; (1900) 12,970.

CHILLIES, n. plu. *chil'lis* [Sp. *chili*]: the pods of the Cayenne or Guiana pepper; a general name for all the different species and varieties of *Capsicum* (q.v.) which furnish Cayenne pepper; the common species is *Capsicum annuum*, ord. *Solanacæ*.

CHILLINGWORTH, *chil'ing-werth*, WILLIAM: 1602–1644, Jan.; b. Oxford: theologian of the Church of England. He was educated at Trinity College, Oxford, where the arguments of a Jesuit named Fisher induced him to become a Rom. Cath. He withdrew to Douay; but was induced by his godfather, Dr. Laud, then Bp. of London, to re-examine the whole controversy between Rom. Catholics and Protestants, and in 1631 he returned to the Anglican Church. Four years later, he published a work, entitled *The Religion of Protestants a Safe Way to Salvation*. It was exceedingly keen, ingenious, and conclusive in point of argument. C. was perhaps the ablest disputant of his age, and had there not been a certain fickleness and want of solidity about his intellect, and a nervous suspicion that all human reasoning might be vitiated by undiscovered fallacies, he might have produced a really great work. *The Religion of Protestants* acquired a wide popularity. C. was offered church preferment, which he at first refused—having certain scruples in regard to the subscription of the 39 articles—but afterward accepted. He became chancellor of the Church of Sarum, and prebendary of Brixworth, in Northamptonshire. He was a strong royalist, and on the breaking out of the civil war, accompanied the king's forces. The best ed. of *The Religion of Protestants* appeared 1742, with sermons, etc., and a life of the author, by Dr. Birch.

CHILLON—CHILOGNATHA.

CHILLON, *shil'lon*, Fr. *shē-yōng'*: celebrated castle and fortress of Switzerland, canton of Vaud, 6 m. s.e. of Vevey. It is at the e. end of the Lake of Geneva, on an isolated rock, almost entirely surrounded by deep water, and connected with the shore by a wooden bridge. The castle is said to have been built 1238, by Amadeus IV. of Savoy, and it long served as a state prison. It is famous as the prison of Bonnivard, the prior of St. Victor, who having, by his efforts to free the Genevese, rendered himself obnoxious to the Duke of Savoy, was carried off by emissaries of that potentate, and confined here for six years, at the end of which time the castle had to surrender to the Bernese and Genevese, when Bonnivard was liberated. C. has been immortalized by Byron's *Prisoner of Chillon*. The castle is now used as a magazine for military stores.

CHILMAREE, *chil-mā'rē*, or CHALAMARI: town of British Indian, presidency of Bengal, on the right bank of the Brahmaputra, 35 m. s.e. of Rangpur. It is prettily situated but ill built, and is the seat of a religious and commercial festival at which 60,000 to 100,000 persons come together.

CHILOE, *chē-lō-ā'*: the insular province of Chili (q.v.): an archipelago on the w. side of S. America, named from its principal island. It is separated from the rest of the republic, or rather from Patagonia, by the Gulf of Ancud, extending in s. lat. $41^{\circ} 40'$ to $43^{\circ} 20'$, and in w. long. 73° to 74° . The province contains, in addition to C. proper, about 60 islets, of which about 30 are uninhabited. In the archipelago are two towns, both of them seaports of C. proper—Castro, the ancient cap., on the e. coast, and San Carlos, the modern seat of government, toward the n.w. extremity. The atmosphere, like that of the mainland opposite, is excessively moist; the westerly winds, particularly in winter, bringing almost constant rains. The climate, however, is, on the whole, healthful. This fact is the more remarkable, inasmuch as C. proper is one natural forest, measuring 100 m. by 40, with a partially cleared and cultivated margin on the sea. The chief products are wheat, barley, potatoes, apples, and strawberries; and cattle, sheep, and pigs are reared in considerable numbers. Agriculture, however, is very primitive; and the staple food of many of the inhabitants consists of mussels and oysters. The population, equally indolent and poor, differs from that of the rest of Chili in the great preponderance of aboriginal blood. Schools are numerous, but, from the ignorance of the teachers, education has not made satisfactory progress. The principal manufacture is a coarse woolen cloth, dyed blue. This archipelago was discovered by the Spaniards as late as 1558; and, as it was the last integral portion of Spanish America to be colonized, so also was it the last to throw off the mother country's yoke. Pop. (1882) 73,041; (1891) 78,522.

CHILOGNATHA, n. plu. *kī'lōg-nā'thā* [Gr. *cheilos*, the lip, the snout of an animal; *gnathos*, a jaw]: order of the Myriapoda (q.v.); the centipedes CHILOPODA, n.: plu.

CHILTERN HILLS—CHIMÆRA.

ki-l̥p'ō-dă [Gr. *podēs*, feet]: order of the Myriapoda (q.v.); the milipedes.

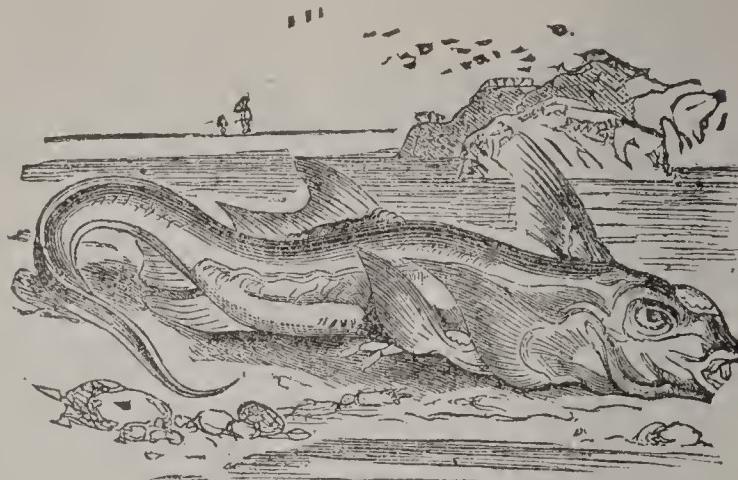
CHILTERN HILLS: s. part of the low chalk range which runs n.e. about 70 m., from the n. bend of the Thames, in Oxfordshire, England, through Bucks and the borders of Herts and Beds, and ends in Norfolk and Suffolk. In Oxford, Herts, and Beds, the C. H. are 15 to 20 m. broad, and the highest points are Wendover, 905 ft., and Whitehouse, 893.

CHILTERN HUNDREDS, n. plu. *chil'térn hūn'drēdz*: a hilly district in Buckinghamshire and Oxfordshire belonging to the crown, having a nominal office attached to it, called the 'stewardship of the Chiltern Hundreds.' In former times, the beech forests which covered the Chiltern Hills, were infested with robbers, and in order to restrain them, and protect the peaceable inhabitants of the neighborhood from their inroads, it was usual for the crown to appoint an officer, who was called the steward of the C. H. The office which has long ceased to serve its primary, now serves a secondary purpose. A member of the house of commons cannot resign his seat unless disqualified either by the acceptance of a place of honor and profit under the crown, or by some other cause. Now, the stewardship of the C. H. is held to be such a place, and it is consequently applied for by, and granted, in the general case as a matter of course, to any member who wishes to resign. As soon as it is obtained, it is again resigned, and is thus generally vacant when required for the purpose in question. When the stewardship of the C. H. is not vacant, however, the same purpose is served by the stewardship of the manors of East Hendred, Northshead, and Hempholme. As to the offices which are held to vacate seats, see ELECTION. The practice of granting the C. H. for the purpose above described began only about the year 1750, and its strict legality has been doubted, on the ground that the stewardship is not an office of the kind requisite to vacate a seat. The gift of the C. H. lies with the chancellor of the exchequer, and there is at least one instance, 1842, of refusal of an application for it—the refusal being based on some very damaging disclosures of corruption made before a committee of the house of commons.

CHIMÆRA, n. *kī-mē'rā*, CHIMÆRIDÆ, n. plu. *kī-mē'rī-dē* [Gr. *Chimaira*, the Chimæra, a fabulous animal that spouted fire]: genus of cartilaginous fishes, ranked by Cuvier with the sturgeon (*Sturionidæ*), but now generally regarded as the type of a distinct family, of which only two or three species are known. The gills have a single wide opening, as in the sturgeons; but the gill lid or *operculum* is merely rudimentary, and concealed in the skin, while there is an approach to sharks in the structure of the gills. The only known species of C. is *C. monstrosa*, occasionally found in the British seas, and more common in more northern latitudes. It is sometimes called the *King of the Herrings*. It pursues the shoals of herrings, and is conse-

CHIMAPHILA—CHIMERA.

quently sometimes taken in herring-nets. It is seldom more than three ft. long. Its general color is silvery



Chimæra Monstrosa.

white, the upper parts mottled with brown. It produces very large leathery eggs. CHIMÆROID, *kī-mē'royd* [Gr. *eidos*, appearance]: relating to the chimæridæ, or like them.

CHIMAPH'ILA: see WINTER-GREEN.

CHIMARA, *kē-mā'rā*, or CHIMARI, *kē-má'rē*, or KHMARA, *kē-mā'rā*: modern name of the anc. Ceraunian Mountains.

CHIMBORAZO, *chim-bō-rā'zō*, Sp. *chēm-bō-rā thō*: conical peak of the Andes, in Quito, 21,510 ft. above the sea, but only about 12,000 above the level of the surrounding table-land. It is capped with perpetual snow, and was long regarded as the loftiest mountain in the world. Latterly, however, it has been ascertained to be overtopped by some peaks, not only of the Himalayas, but even of the central division of its own chain. The summit was for the first time reached by Stübel 1872. Humboldt ascended within 2,138 ft. of the summit. Whymper ascended twice in 1880, and found that there was a large glacier on the mountain.

CHIME, n. *chīm* [imitative of a loud, clear sound: Fin. *kimia*, acute, sonorous: comp. F. *cymbale*—from L. *cymbalum*, a cymbal]: the musical harmony produced by striking a set of bells with hammers; a set of bells tuned to the musical scale, and struck by hammers either by the hands of performers or by mechanism: V. to sound in harmony or accord; to agree with; to cause to sound in harmony. CHIMING, imp. CHIMED, pp. *chīmd*. CHIMING IN, keeping tune with; agreement.

CHIMERA, n. *kī-mē'rā* [L. *chimæra*, a monstrous beast: Gr. *chimaira*, a she-goat, a monster]: mythical monster, described by Homer as having a lion's head, a goat's body, and the tail of a dragon. The rationalistic account of C. is, that it represented a mountain in Lycia whose top was the resort of lions, its middle of goats, and the marshy ground at the bottom of which abounded with serpents. In the same manner, Bellerophon's (q.v.) victory over the

CHIMERE—CHIMINAGE.

C. is explained by saying that he first made his residence on this mountain. The myth seems, at all events, to have belonged to Asia Minor, as gigantic carvings of the C. on rocks are there found. It is usually represented as a lion, out of the back of which grows the head and neck of a goat.—C. is used figuratively to denote any monstrous or impossible conception, the unnatural and frightful birth of the fancy. It is frequently depicted on shields, as a heraldic charge. CHIMERICAL, a. -mér'ī-kál, merely imaginary; vainly or wildly conceived; that can have no existence except in thought. CHIMERICALLY, ad. -lī.—SYN. of 'chimerical': imaginary; delusive; deceitful; fanciful; fantastic; wild; vain; unfounded.

CHIMERE, *shī-mēr'*: 'the upper robe worn by a bishop, to which the lawn-sleeves are now generally attached.' In the English Church, since the time of Queen Elizabeth, it has been of black satin, but previously it was of a scarlet color, like that worn by the bishops when assembled in convocation, and when the sovereign attends parliament.

CHIMES, *chīmz*: music performed on bells in a church tower, or the set of bells thus used; the English word, like the Fr. *Carillons*, is used in both senses. The bells are struck by hammers moved either by clockwork or by hand; in the former case, pegs, placed at proper intervals, project from the circumference of a revolving cylinder, and are brought in contact with levers which operate on the hammers. *Carillons à clavier* are played by an attachment resembling the keyboard of a piano; the performer strikes with his fists the keys, which are connected with the bells by rods or cords. Strength as well as skill is required for this kind of playing; yet Pothoff, a blind organist of Amsterdam, could execute fugues on the bells, giving a force of 2 lbs. wt. to each key. The treble notes are struck by the hand in a leather covering, the bass by the feet on pedals, which connect with the larger bells. It is supposed that C. began in German monasteries, and that the first instrument for producing them was made 1487 at Alost in the Netherlands. Amsterdam has carillons in three octaves. The finest sets of C. are at Copenhagen and Ghent. Many churches in the United States now have them, chiefly Episc. and Rom. Cath.; the oldest probably are those of Christ Church, Philadelphia, which were presented by Queen Anne, sunk in the Delaware during the revolution to prevent their being taken by the British, and hung again after the war. Next come those of Christ Church, Boston, and Trinity, New York, the bells in the latter weighing each from 700 to 3,081 lbs., in all 15,000 lbs. The 10 of Grace Church, New York, aggregate 10,300 lbs. Those of St. Thomas, New York, cast at West Troy and put up 1874, are fine in tone and tune. C. on a small scale have been applied to clocks and even to watches.

CHIMINAGE, n. *shīm'in-īj* [F. *chemin*, a road, way]: in old law, a toll paid for passage through a forest.

CHIMNEY.

CHIMNEY, n. *chim'ni*, CHIM'NEYS, n. plu. -niz [F. *cheminée*, a chimney: It. *camminata*, a hall—from mid. L. *camināta*, an apartment with a fireplaee—from *caminus*, a hearth, a flue]: a funnel or passage upward in a wall for the eseape of smoke or heated air. CHIMNEY FLUE or VENT, the passage from the fireplace upward for the eseape of the smoke or heated air. CHIMNEY-SWEEP, one who eleans chimneys. CHIMNEY-PIECE, the plain or ornamental frame of wood or stone forming the two sides of a fireplaee, and resting on the hearth.—The MANTELPIECE is the horizontal slab and overhanging shelf above the chimney-piece: see MANTEL. CHIMNEY-MONEY, n. in *old law*, a tax paid for each chimney in a house. This tax was imposed in the reign of Charles II., and abolished under William and Mary. CHIMNEY-VALVE, a deviee of Dr. Franklin for withdrawing the foul air from a room by means of the upward draft in the ehimney.

CHIMNEY: funnel from the hearth or fire-plaee, leading above the roof of the house. There is reason to believe that the C. is a modern invention. In Greek houses it is supposed that there were no chimneys, and that the smoke escaped through a hole in the roof. What the arrangement was in houses in which there was an upper story, is not known; perhaps the smoke was conveyed by a short funnel through the side-wall of the house, which seems to have been the first form of C. invented in the middle ages. The Roman *caminus* was not exaetly a C., but rather a sort of stove; and it has been a subject of much dispute, whether the Romans had any artifcial mode of carrying off the smoke, or whether it was allowed to escape through the doors, windows, and openings in the roof. As the climate and the habits of the people both led to the houses of the ancients being very mueh more open than ours are, it is probable that the occasional fires which they had of wood or chareoal may have given them no great incon-

venienee. It is known, besides, that the rooms in Roman houses were frequently heated by hot air brought in pipes from a furnace below. In Eng land, there is no evidencee of the use of C.-shafts earlier than the 12th c. In Rochester Castle (*circa* 1130), complete fireplaces appear; but the flues go only a few feet up in the thickness of the wall, and are then turned out through the wall to the baek of the fire-place, the openings being small oblong holes. The earliest C.-shafts are eireular, and of considerable height. Afterward, chimneys are found in a great variety of forms. Previous to the 16th c. many of them are short and terminated by a spire or pinnaele having



Tisbury, Wilts:
From Parker's Glos-
sary.

apertures of various shapes. These apertures are sometimes in the pinnacle, sometimes under it, the smoke eseaping as from some modern manufacturing C.-stalks which

CHIMNEY.

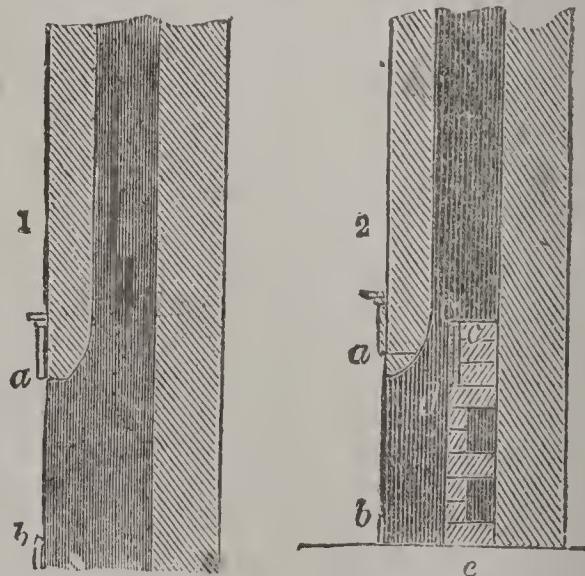
are built in the form of an Egyptian obelisk. Clustered C.-stalks do not appear until late in the 15 c., when they seem to have been introduced simultaneously with the use of brick for this purpose. Each of the earlier clustered chimneys consists of two flues which adhere to each other, and are not set separate, as afterward was the practice. Long after they were invented and in use for other rooms, they were not generally introduced into their halls, which, till the end of the 15th, or beginning of the 16th c., continued as formerly to be heated by a fire on an open hearth in the centre of the hall, the smoke escaping through an opening in the roof known by the name of *louvre*. In many of the older halls in which chimneys exist, they have evidently been inserted about this period.

The action of a C. depends upon the simple principle, that a column of heated air is lighter than a cooler column of equal height; when therefore a flue full of heated air communicates freely by the lower part with the cooler air around it, the greater weight of the latter pushes the warm air upward, and thus an ascending current is produced. Other conditions being equal, the draught of a C. will thus be proportional to its perpendicular height, and the difference between the temperature within and without it. The straighter and more perpendicular the C., the stronger will be the draught, because the friction of the ascending current will be less, and the cooling effect of a long or tortuous course will be saved. The maximum efficiency of a given C. is attained when all the air that passes up it enters by the bottom of the fire. In this case, its temperature is raised to the uttermost by passing through the whole of the fire, and the fire is at the same time urged to vivid combustion by the blast thus obtained. A powerful furnace may be constructed by connecting a suitable fireplace, capable of being closed all round excepting at the bottom, with a tall C.; and the amount of draught may be regulated by increasing or diminishing the aperture through which the air is admitted to the bottom of the fireplace, or by an adjustable opening above the fireplace, which, as its size is increased, will diminish the effective draught, or by a combination of both of these contrivances.

When the fireplace can be inclosed thus, there is little liability to descending currents or 'smoky chimneys,' as they are called, even when the C. is very short, or has a tortuous course. It is chiefly with open fireplaces that this defect occurs, and the means of prevention and cure is a subject of much importance. As with most other evils, the prevention is far easier than the cure; for by properly constructing the C. in accordance with the principles above stated—by placing the opening of the C. as nearly over the fire, and contracting the open space above the fire, as much as possible—downward smoking may in most cases be easily prevented. When a C. is in the neighborhood of a wall or building nearly as high as itself; or—what is still worse—higher, it is apt to smoke on account of the eddies and other complex currents in the air, caused by the interfer-

CHIMNEY.

ence which such an obstacle presents to the regular movement of the wind. In towns, such tortuous movements of the atmosphere are very common, and the contrivances for preventing the wind from blowing down the chimneys are very numerous, and often grotesque. Revolving cowls of various forms, but alike in having a nearly horizontal outlet, which is so turned by the wind that the mouth shall always point in the direction opposite to that whence the wind is blowing, are the most common, and usually the most effectual. They are generally of sheet-zinc, with an arrow, a flattened pigeon, or other device, as a vane, to determine the rotation of the cowl. The curing of smoky chimneys, in conjunction with the economizing of fuel, was one of the favorite subjects of investigation of that very practical philosopher, Count Rumford. He says: ‘ Those who will take the trouble to consider the nature and properties of elastic fluids—of air, smoke, and vapor—and to examine the laws of their motions, and the necessary consequences of their being rarefied by heat, will perceive that it would be as much a miracle if smoke should not rise in a chimney—all hindrances to its ascent being removed—as that water should refuse to run in a siphon, or to descend a river. The whole mystery, therefore, of curing smoky chimneys is comprised in this simple direction: find out and remove those local hindrances which forcibly prevent the smoke from following its natural tendency to go up the chimney; or rather, to speak more accurately, which prevent its being forced up by the pressure of the heavier air of the room.’* He then goes on to speak of above 500 smoking chimneys that he has had under his hands, and which were supposed incurable, and states that he was never, obliged, ‘ except in one single instance, to have ro-

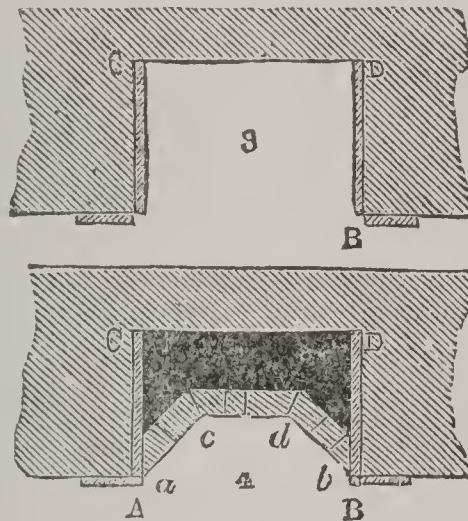


course to any other method of cure than merely reducing the fireplace and throat of the chimney, or that part of it which lies immediately above the fireplace, to a proper form and just dimensions.’

* *Essays: Political, Economical, and Philosophical*, by Benjamin Count Rumford, vol. i. p. 299.

CHIMNEY.

The figures illustrate his method of proceeding. Fig. 1 is a side view of a vertical section of a C. and fireplace before alteration; fig. 2, the same after the reduction of the fireplace and throat of chimney. *ab* is the opening of the fireplace in both; this is lowered by the piece at *a*, fig. 2, and the depth diminished by the brickwork, *ce*, behind; *cd* is a movable tile, to make room for the C.-sweeper. Figs. 3 and 4 are plans of the fireplace, looking down upon the hearth; the original opening of the fireplace is shown by



ACDB, fig. 3; the contracted opening, by *acdb*, in fig. 4. The dark space is filled with rubbish and faced with brick-work.

The slope of *ac* and *bd*, fig. 4, is better adapted for radiation into the room than the square opening of fig. 3; the fire being brought further forward, has also more heating effect; the space of the fireplace being smaller, the air within it will with a given sized fire become hotter, and therefore have more ascending power; while in the contracted throat widening downward, and having its sides strongly heated, there is a rapid rush of heated air, which carries the smoke upward, and resists the passage of temporary down-draughts. Most modern chimneys and fireplaces are now constructed in accordance with Count Rumford's suggestions: see GRATE.

One frequent cause of smoky chimneys is the want of sufficient inlet for air to the room. Sandbags placed under doors, and other devices for preventing ventilation, may cause a well-constructed C. to smoke. Openings must exist somewhere, of sufficient capacity to supply the air which is to ascend the chimney. If the air enters the room on the same side as the fireplace, and sudden gusts of air pass across the front of the fireplace, a temporary descending current is likely to be produced. The openings are best opposite the fire. For the methods of arranging and regulating such openings for the admission of air, see VENTILATION.

Tall factory-chimneys, usually of brick, are very costly structures, many of them rivalling in height the loftiest church spires. Their construction has been considerably

CHIMPANZEE.

economized by building from the inside, and thus saving the expensive scaffolding. Their walls are built very thick at the base, and gradually thinner upward; recesses are left at regular intervals in the inside, and stout wooden or iron bars rest upon these to form a sort of temporary ladder for the workmen to ascend; the materials are hoisted by ropes and pulleys.

Sheet-steel chimneys are largely used in the U. S. They are much cheaper but less durable than brick, and are objectionable on account of their rapid cooling by the action of the external air.

CHIMPANZEE, n. *chim'pān-zē'* [from a native name], (*Troglodytes niger*): species of ape; one of those which in form and structure exhibit the greatest resemblance to man. It is a native of the warmest parts of Africa; to which also the Gorilla (q.v.), a larger species of the same genus, belongs. The C. is sometimes called the Black Orang; but differs from the Orang (q.v.) (*Pithecius*) of Asia in the proportionally shorter arms, which, however, are much longer than those of man; in the possession of an additional dorsal vertebra, and an additional or thirteenth pair of ribs; and in other particulars, in some of which it more nearly resembles, and in others more widely differs, from the human species. In both, the difference from man is very wide in the general adaptation of the structure for movement on all-fours and for climbing and moving about among branches, rather than for erect walking, although the C. is able to move in an erect posture more easily than any other ape, usually, however, when so doing, holding its thighs with its hands; and still more in the form of the skull, and consequent aspect of the countenance, the facial angle being as low as 35° in the C. when it is measured without regard to the high bony ridges which project above the eyes; the jaws excessively projecting, and the outline of the face rather concave. There is also an important difference from the human species in the dentition; though the number of teeth of each kind is the same, the canine teeth of the apes are elongated, so as to pass each other, and corresponding intervals are provided for them in the opposite jaw. An interesting point of difference of the anatomy of the C. and Orang from that of man, is in the muscle which in man terminates in a single tendon, and concentrates its action on the great toe, terminating in the apes in three tendons, none of which is connected with the great toe or hinder thumb, but which flex the three middle toes; part of the adaptation of the foot for clasping as a hand. The great toe both of the C. and Orang is shorter than the other toes, and opposed to them as a thumb.

The C. does not seem to attain a height of quite four ft. when in an erect posture. Its skin is thinly covered with long black hair in front; the hair is thicker on the head, back, and limbs. The ears are remarkably prominent, thin, and naked, not unlike human ears in shape. The nose appears as little more than a mere wrinkle of the skin. The thumb of the hand is small and weak, that of the foot

CHIN—CHINA.

comparatively large and powerful. In a wild state, the animal appears to be gregarious, but its habits are not well known. Truth and fable have been so mixed up in the accounts of it, that new information must be obtained from trustworthy sources before even things not in themselves very improbable can be believed. In a state of confine-



Chimpanzee.

ment, it exhibits, at least when young, considerable gentleness and docility, and readily learns to imitate human actions, in eating with a spoon, drinking out of a glass, and the like; but its intelligence does not appear to be superior to that of many other monkeys, or indeed of many kinds of brutes. Its natural food consists chiefly of fruit and other vegetable substances; in confinement, it exhibits a great fondness for sweetmeats and for wine. The C. is impatient of cold, and northern temperate climates usually prove fatal to it.

CHIN, n. *chin* [AS. *cinne*; Dut. *kinne*; Icel. *kinn*, the jaw, the cheek: L. *gena*, the cheek: Gr. *genus*, the jaw, the chin]: the part of the face below the under lip.

CHINA, *kī'nā*, or **CHINA NOVA**, *nō'vā* [It. *China*; Sp. *quina*, China: Swed. *kina-bark*: L. *novus*, new]: the German name for Peruvian or Jesuits' bark; various kinds of cinchona bark: see **CINCHONA**.

CHINA, n. *chī'nā*: a fine kind of earthenware, originally from *China* (see **PORCELAIN**): ADJ. of or from China. **CHINA-SHOP**, a shop for the sale of china-ware, etc. A **BULL IN A CHINA-SHOP**, strength and violence unresisted. **CHINESE**, a. *chī-nēz'*, of or pertaining to China: N. the language or inhabitants. **CHINA-ASTER**, *-ăs'tér* [Gr. *aster*, a star]: a genus of plants having compound flowers; the *Aster Chinen'sis*, ord. *Compositae*. **CHINA-CLAY**, the finer varieties of pottery-clay, called *kaolin* (see **CLAY**). **CHINA-**

CHINA—CHINCHA ISLANDS.

STONE, the decomposed granites yielding the china-clay or kaolin of commerce. CHINA-WAX, product of an insect living on ash trees, in China. It is deposited on the limbs, from which it is scraped; then, after being melted and strained, it resembles bees' wax.

CHINA: see CHINESE EMPIRE.

CHINA GRASS, or CHINESE GRASS: popular name of a fibre used in China for the manufacture of a beautiful fabric known as *Grass-cloth*. The name appears to have originated in the belief that the fibre was that of a grass; but this is not the case, it being chiefly obtained from *Baehmeria* (q.v.) *nivea*, a plant allied to the nettle. Besides this and other species of the nat. ord. *Urticaceæ*, other plants, as species of *Corchorus* (q.v.) and *Sida* (q.v.), are believed to yield fibres employed in the same manufacture. The fibres are said not to be spun after the European manner, but joined into long threads by twisting their ends together. Grass-cloth is now brought in considerable quantity to Europe and America: it has a fine glossy appearance and a peculiar transparency.

CHINANDEGA, *chē-nan-dē'gā*: town of Central America, Nicaragua; in a fertile plain at the foot of some mountains, about 18 m. n.w. of Leon, and about 10 m. from the Pacific coast. The houses are straggling, of one story, built of adobes, and many of them are inclosed by gardens and plantations. Maize, sugar, cotton, hides, and poultry are produced in the vicinity. Pop. abt. 10,000.

OLD CHINANDEGA, contiguous, has a pop. of abt. 4,000.

CHINA ROOT: root, or rather the *rhizome* (root-stock) of *Smilax China*, a climbing shrubby plant, closely allied to sarsaparilla, and belonging to the same genus; native of China, Cochin-China, and Japan. See SARSAPARILLA: SMILACEÆ. The stem is round and prickly, the leaves thin and roundish oblong; the rhizome tuberous and large; sub-astringent and diaphoretic. It is occasionally used in medicine, and is imported in a dry state into Europe; but in the East it is used also for food. It abounds in starch.

CHINA SEA: see CHINESE SEA.

CHINCAPIN: see CHESTNUT and OAK.

CHINCHA ISLANDS, *chin'cha*, or *chēn'chā*: in the Pacific, 12 m. from Pisca on the coast of Peru, and 106 m. s. of Callao; lat. $13^{\circ} 38'$ s., long. $76^{\circ} 28'$ w. North Island, the largest of the three, is $\frac{4}{5}$ m. by $\frac{1}{2}$ m. They are of volcanic origin and granitic formation, barren, and important only from their immense deposits of guano, which before its removal added some 90 ft. to the height of the rocks. The cliffs were worn into caves, arches, and hollows, which multitudes of penguins and smaller birds made their resort. Idols, water pots, and other relics of Peruvian antiquity have been found in the guano, some of them at a depth of 62 ft. The guano was estimated 1846 at 18,250,000 tons, and 1853 at 12,376,100. Numbers of convicts and Chinese coolies were employed in its transportation. Though all food, and even water, was brought from the mainland, 6,000 persons

CHINCH-BUG—CHINCHILLA.

were living on North Island 1868; the number had diminished in 1874 to 105. The export continued active 1841–72, and over 100 vessels were often loading at one time; after 1872 it was nearly abandoned, the supply being practically exhausted. 8,000,000 tons had been taken from North and Middle Islands 1853–72. These islands were a bone of contention between local powers 1853–4, and were seized 1864 by the Spanish admiral Pinzon to bring Peru to terms in a dispute with Spain.

CHINCH-BUG n. *chinch-bug* (*Blissus leucopterus*): a hemipterous insect known throughout the U. S.; in some seasons extremely destructive in grain-growing sections. It is $\frac{3}{20}$ in. long, black, with white wings, each of which has a black spot. Its odor is offensive. It winters in the mature state, in the shelter of grass or rubbish in a dry locality, and becomes active early in spring. The female lays about 500 eggs, which are deposited on or near the roots of plants. There are two broods each year; and sometimes a third, but small one, appears. The larva is wingless, but otherwise resembles the adult except in size. The C.-B. feeds principally upon grains and grasses. It can endure severe cold, but continued dampness is destructive. Birds, toads, frogs, and predaceous insects are among its enemies. In wet seasons countless numbers perish from fungus and bacterial diseases, some of which a few of the Government Experiment Stations have artificially introduced into infested fields. As it sucks its food the C.-B. cannot be poisoned; but kerosene emulsion (see INSECTICIDES AND FUNGISIDES) is a destructive agent. Migrations are principally on foot. A few furrows harrowed into fine dust, or a shallow trench filled with coal tar and kept from drying, will check the progress of an army. All rubbish in which the C.-B. can find shelter should be burned in the fall.

CHINCHEW, or **CHINCHU**, *chin-chō'* (properly CHWAN-CHOW-FOO): ancient port of China, province of Fuh-kun; lat. $24^{\circ} 57' \text{ n.}$, long. $118^{\circ} 35' \text{ e.}$ In the middle ages it was the great port of trade with the west, and known to the Arabs as Zaitūn; Marco Polo called it ‘one of the two greatest seaports in the world,’ and Ibn Batuta ‘the greatest.’ The name C. was somehow transferred by Europeans to Changchow, a city 60 m. w.s.w., and hence confusion has arisen. C. is now reduced from its former greatness. It contains the ruins of an Arab mosque; and there is an English Presb. mission, established 1862.

CHINCHILLA, n. *chin-chīl'lā* (*Chinchilla*, *Eriomys*, or *Callomys*): genus of small S. American rodents, type of a family, *Chinchillidæ*, allied to Cavies (*Cavidae*), but differing from them in possessing clavicles. The general aspect is somewhat rabbit-like. There are several genera of *Chinchillidæ*, distinguished in part by the number of toes; the true chinchillas having four, with the rudiment of a fifth on the fore-feet, and four on the hind-feet; whilst in the genus *Lagidium* or *Lagotis* there are four on each foot; and in *Lagostomus*, four on the fore-feet and three on the hind-feet. All the species of this family are gregarious; feed

CHINCHON—CHINÉ.

much on roots, for which their strong and sharp incisors are particularly adapted; and live either in holes, which they select for themselves in rocky districts, or in burrows, which they excavate. They are valued for their soft gray fur, particularly the CHINCHILLA of the Andes (*C. lanigera*), of which the fur constitutes an important article of com-



Chinchilla.

merce. Their numbers are said to be sensibly decreasing in consequence of the demand for the fur. The ancient Peruvians were accustomed to employ the wool of the C. for the manufacture of fine fabrics. Molina suggests that the C. might easily and profitably be kept in a domesticated state.

CHINCHON, *chēn-chōn'*: town of Spain, province of Madrid, 25 m. s.s.e. of the city of Madrid; pleasantly situated on a hill near the Tagus. Agriculture is the chief occupation of the inhabitants. Peruvian bark was named *Chinchona*, now habitually misspelled *Cinchona* (q.v.), after a Countess of C., wife of the gov. of Peru, 1638. Pop. about 5,000.

CHINCOUGH, n. *chīn'kōf* [Dut. *kinkhoest*—from *kinken*, to wheeze; *hoest*, a cough: Scot. *kink-host*—from *kink*, to labor for breath; *host*, a cough]: the whooping-cough or hooping-cough.

CHINDWARA, *chīnd-wā'rā*: town in the Central Provinces of India; lat. $22^{\circ} 3'$ n., and long. $78^{\circ} 58'$ e. It occupies a plateau amid the Deoghlur Mountains, 2,100 ft. above the level of the sea. Its climate is consequently one of the most agreeable and salubrious in India, attracting many visitors in search of health or recreation. Pop. 9,000.

CHINE, n. *chīn* [F. *échine*; OF. *eschine*, the backbone—from Prov. *esquina*—from O.H.G. *skina*, a needle, a prickle: W. *cefn*, a ridge]: the backbone of an animal; a piece of the backbone, with adjacent parts, cut from an animal for cooking; part of the water-way of a ship; V. to cut into chine-pieces. CHINING, imp. CHINED, pp. *chīnd*.

CHINÉ, n. a. *shē'nā* [F. *chiné*—from *chiner*, to dye or color to resemble Chinese silks, etc.]: variegated ladies' work made with threads variously colored, producing pleasing and effective designs.

CHINE—CHINESE EDIBLE DOG.

CHINE, LA, *lù shēn*: village of the Dominion of Canada, on the s. side of the island of Montreal, about nine m. w. of the city of Montreal. Both the city and the village stand on the left bank of the St. Lawrence, or rather, of a branch of the Ottawa; for here, and for at least ten or twelve m. further down, these united rivers keep their waters unmixed. As the intermediate portion of the stream forms the rapids of St. Louis, the consequent interruption of the navigation naturally rendered La C. a turning-point between the maritime and the inland communications. Gradually, however, its importance in this respect has been diminished, if not extinguished, by works between it and Montreal—a canal, a railway, and even improvements in the rapids themselves. Pop. (1891) 7,631.

CHINESE EDIBLE DOG: kind of dog used as an article of food in China, and reared in order to be so used, being esteemed as a delicacy: a small dog of grayhound-like form, with somewhat terrier-like head, and muzzle



Chinese Crested (Edible) Dog.

more elongated than in terriers. It is fleet and active, gentle and affectionate. The skin is almost destitute of hair; but there is a variety having a crest of long hair on the head, and a large tuft of hair at the tip of the slender and otherwise naked tail.

CHINESE EMPIRE.

CHINESE EMPIRE, *chī-nēz*: vast territory in eastern Asia, comprehending five great divisions—viz., 1. Manchuria (q.v.); 2. Mongolia (q.v.); 3. Turkestan (q.v.); 4. Tibet (q.v.); 5. China Proper, or the Eighteen Provinces (*Shih-pā-sang*), including the large island of Hainan. From 1886 till its cession to Japan in 1895, Formosa formed a 19th province.

China Proper occupies the e. slope of the table-lands of central Asia. In form it approaches a square, having the Pacific ocean on its southern and eastern sides. It is inhabited by over 380 millions of the human race, living under the same government, ruled by the same laws, speaking the same language, studying the same literature, possessing a greater homogeneity, a history extending over a longer period, and a more enduring national existence than any other people, whether of ancient or modern times; indeed in view of its high antiquity, its peculiar civilization, its elaborate administrative machinery, its wondrous language, its philosophy and classic literature, its manufacturing industry and natural productions, giving rise to such a gigantic commerce with civilized western lands, China is perhaps the most remarkable country in the world, and is worthy of close and serious study. China proper is included between 18° and 40° n. lat. (which takes in the island of Hainan), and 98°–124° e. long. Its coast-line exceeds 2,500 m., and the land-frontier 4,400 m. A line running direct n. and s. would give a length of 1,474 m.; and another at right angles to this, 1,355 m.; but one drawn diagonally from its n.e. extremity through Yun-nan would measure 1,669 m. The area of China Proper is about 1,324,609 sq. m. The whole empire has more than 4,000,000 sq. m.

Area and Population.—In a country of such vast extent—extending from 18° to 40° n. lat.—the *climate* must vary greatly. Indeed, as regards both climate and productions, China may be divided into three zones—the northern, the central, and the southern. The northern zone extends to the 35th parallel, and includes the five provinces of Shantung, Chih-le, Shan-se, Shen-se, Kan-su. It produces the grains, fruits, and animals of n. Europe. Here the children are red-cheeked, and the extremes of heat and cold are great. In Chih-le, the winters are very severe; and at that season ice a foot thick renders the rivers unnavigable. The natural productions of this and the contiguous n. provinces are wheat, barley, oats, apples, the hazle-nut, and the potato; they are rich also in wood and minerals. The central zone, the richest portion of China, contains eight provinces—Sze-chuen, Kwei-chow, Hu-nan, Hu-pih, Keang-su—and is bounded by the 27th or 28th parallel; tea and silk are its characteristic products; the middle portion is the granary of China, and the e. part is celebrated for its manufactures of silk and cotton. The southern zone embraces five provinces—Yun-nan, Kwang-tung, Kwang-se, Fuh-keen, and Che-keang. The exchange of its tropical productions for those of the north-

CHINESE EMPIRE.

ern zone is an important branch of the internal commerce of the country. Kwang-tung lies partly within the tropics; and the whole province is tropical, both in climate and productions. Nearly all statements of area and pop. have been based on estimates, which show great variance. The following table is from data compiled in Peking, 1902, and is generally regarded as the most reliable extant:

Provinces.	Area, sq. m.	Pop.	Pop. per sq. m.
Chili.....	115,800	20,937,000	172
Shantung.....	55,970	38,247,900	683
Shansi.....	81,830	12,200,456	149
Honan.....	67,940	35,316,800	520
Kiangsu.....	38,600	13,980,235	362
Nganhwei.....	54,810	23,670,814	432
Kiangsi.....	69,480	26,532,125	382
Chehkiang.....	36,670	11,580,692	316
Fukien.....	46,320	22,876,540	494
Hupeh.....	71,410	35,280,685	492
Hunan.....	83,380	22,169,673	266
Shensi.....	75,270	8,450,182	111
Kansu.....	125,450	10,385,376	82
Szechwan.....	218,480	68,724,890	314
Kwangtung with Hainan.....	99,970	31,865,251	319
Kwangsi.....	77,200	5,142,330	67
Kweichau.....	67,160	7,650,282	114
Yunnan.....	146,680	12,324,574	84
Total.....	1,532,420	407,253,029	266
Dependencies.			
Manchuria.....	366,610	8,500,000	
Mongolia.....	1,367,600	2,580,000	
Tibet.....	463,200	6,430,000	
Chinese Turkestan.....	550,340	1,200,000	
Total.....	2,747,750	18,710,000	
Total of empire.....	4,277,170	426,047,325	

Physical features.—China has a general slope from the mountains of Tibet to the shores of the Pacific. The two principal mountain-chains divide it into three longitudinal basins drained by those great rivers for which China is famous. Within its provinces are found alluvial plains, fertile river-valleys, large populous towns, as well as thinly inhabited hilly and mountainous regions. Its surface may be viewed under its natural divisions of mountainous country, hilly country, and the great plain. The first comprehends more than half the region between the meridian 113° and Tibet. East of this meridian, and to the s. of the Yang-tze-kiang river, is the hilly country, which includes the provinces of Fuh-keen, Keang-se, Kwang-tung, and a portion of Hu nan and Hu-pih; while to the n.e. stretches the great plain. This latter extends from the great wall to 30° n. lat.; a line drawn from King-chow in Hu-pih to Hwae-king on the Yellow river, may be considered its w. limit; and the sea forms its boundary on the e. This vast and generally fertile tract has an area of 210,000 sq. m., and supports a population of 177 millions.

From the mountains of Tibet two grand ranges stretch across China, having a general direction from s.w. to n.e.

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The more northerly of these—the Thsin-ling or Blue Mountains—are included between the parallels 31° and 34° . The s. or Nan-ling chain is a spur of the Himalayas. Commencing in Yun-nan, it bounds Kwang-se, Kwang-tung, and Fuh-keen on the n., and passing through the province of Che-keang—where some of its peaks reach the height of 12,000 ft.—enters the sea at Ning-po; thus forming a continuous barrier—penetrated by only a few steep passes, of which the Mei-kwan, or Mei Pass, is the best known—that separates the coast-land of S.E. China from the rest of the country. This great chain throws off numerous spurs to the s. and e. which, dipping into the sea, rise above it as a belt of rugged islands along the s. half of the Chinese seaboard. Of this belt, the Chusan archipelago is the most northerly portion.

The magnificent *river-system* of China is represented by those noble twin streams, the Hwang-ho or Yellow river, and the Yang-tze-kiang, which, springing from the same water-shed, the e. mountains of Tibet, are widely separated in their mid course, but till of late entered the sea within 2° of each other. The former has its source in $35\frac{1}{2}^{\circ}$ n. lat., and about 96° e. long.; and after a very tortuous course, now empties itself into the ocean in lat. 38° . (For the changes in its lower course, see *Hwang-ho*.) It is for the most part little adapted for navigation. But the river most beloved by the Chinese is the Yang-tze-kiang (q.v.)—in its upper course called Ta-kiang, or Great river—with a drainage basin of 750,000 sq. m. Of the other rivers, the Peihō in the n., and the Choo-keang in the s., are the most noteworthy.

The principal *lakes* of China are five in number—viz., the Tung-ting-hu, in 113° e. long., with a circumference of about 220 m.; the Poyang-hu, in 116° e. long., 90 m. in length by 20 in breadth; the Hung-tsin-hu, in Keang-su; the Tsau-hu, between Ngankin-fu and Nankin; and the Tai-hu, in 120° e. long.

The *Grand canal* has very greatly facilitated the internal navigation of the country. Until lately, the great annual grain fleet with its 430,000 tons of rice for the use of the capital passed from the s. to the neighborhood of Pekin by this great water-way; thus avoiding the storms and pirates of the coast, but the alteration already mentioned in the course of the Hwang-ho has rendered it comparatively useless. It connects Tien-tsin in Chih-le with Hang-chow in Che-keang; though the canal proper commences in Shantung, and its total length is about 650 m.

Another world famous structure is the *Great Wall*, called by the Chinese Wan-li-chang (myriad-mile-wall). There have been several great walls built against invaders: one B.C. 300, and a larger one B.C. 214, but there is no reason to suppose that either corresponds with the present one. In 1368, the pressure of the Mongols first suggested to the emperors of the Ming dynasty the idea of a continuous and comprehensive wall; and at detached periods in successive centuries, the present great wall was reared. Part of it dates from the period 1530–1620 (see *Proc. of the Geog. Society*, 1882).

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It traverses the n. boundary of China, extending from $3\frac{1}{2}^{\circ}$ e. to 15° w. of Pekin, and it is carried over the highest hills, through the deepest valleys, across rivers, and every other natural obstacle. The length of this great barrier is 1,259 m. There are four different kinds of masonry in various parts of it; but the most important portion consists really of two parallel walls of burnt brick, the interval between them being filled up with clay, stone, and brickbats. Including a parapet of five ft., the total height of the wall is 20 ft.; thickness at the base, 25 ft.; and at the top, 15 ft. Towers or bastions occur at intervals of about 100 yards. These are 40 ft. square at the base, and 30 ft. at the summit, which is 37 ft., and in some instances 48 or 50 ft., from the ground. Earth inclosed in brickwork forms the mass of the wall; but for more than half its length it is now little else than a heap of gravel and rubbish.

Geology.—The high lands, where are the sources of the great rivers of China, consist of granitic and metamorphic rocks. These are continued round the s. and s.e. of the country, until they leave a huge basin, through which flow the Yang-tze-kiang and Hwang-ho, occupied by fossiliferous strata. The wild and rugged scenery of the larger portion of China is owing to the predominance of those crystalline and sub-crystalline rocks. The fossiliferous strata exhibit representatives of the various formations. The Paleozoic rocks are but sparingly developed in a narrow stripe which runs from near Pekin, in a s.w. curve, to nearly the centre of the empire. Cretaceous rocks occur in the valley of the Yang-tze-kiang. Tertiary beds fill up the e. portion of the immense basin; while extensive districts to the w. of this region, extending to the crystalline rocks in the extreme west, are covered with modern detritus.

Though no active volcanoes are known to exist except one in Formosa, yet indications of volcanic action are not wanting. Salt and hot-water springs are in Yun-nan; sulphur springs near Foo-chow; and wells of petroleum in Shen-se and Formosa. The most famous among the minerals of China is jade or the yu-stone, obtained chiefly in Yun-nan. Coal, limestone, and porcelain clays are abundant. Precious stones are said to be found in some districts. In Yun-nan, gold is washed from the sands of the rivers, and in the same province silver-mines are worked; here, too, is obtained the celebrated pe-tung or white copper. All the commoner metals likewise are found in China. Near the city of Ning-po are extensive stone quarries.

Vegetable productions.—Our knowledge of the flora of China has been much advanced by the researches of Fortune, Richthofen, and others; and there are now numerous works discussing the geography, culture, and varieties of the tea-plant, and of the botany of the country generally. The tea-plant (*Thea viridis* and *Thea bohea*) is the most important vegetable production of China (see TEA). The tallow-tree (*Stillingia sebifera*), the *Dryandra cordata* or varnish-tree, the camphor-tree (*Laurus Camphora*), the Chinese pine (*Pinus Sinensis*), the Chinese banyan (*Ficus nitida*), the funeral cypress—introduced into Britain by Mr. For-

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tune—and the mulberry, are among the most important trees of China. The cocoa-nut and other palms flourish on the s. coast. Of the bamboo, which grows as far n. as lat. 38° , there are 63 principal varieties; and it is said that the bamboos of China are more valuable than her mines, and, next to rice and silk, yield the greatest revenue. The various uses to which they are applied is truly astonishing; among these is the famous use of the bamboo as an instrument of punishment. The fruits of both the tropical and temperate zones—apples, grapes, pomegranates, mangoes, pine-apples, three species of orange, the lichi, etc.—are found in the country; and camelias, azaleas, and gardenias are natives of the ‘flowery land.’ The *nymphæa*, or water-lily, is greatly prized by the Chinese, both for ornament and in an economical point of view. Agriculture is held in higher estimation in China than, perhaps, any other country in the world. On the first day of each year, a grand state-ceremony is performed in its honor. The emperor, accompanied by his great officers of state, repairs to the sacred field, and having offered sacrifices on an altar of earth, he traces a furrow with the plow, and his example is followed by princes and ministers. A like solemnity is celebrated by the gov. of every province, who represents the emperor. The agricultural system of the Chinese is rude, but effective; and every inch of arable land is carefully cultivated. Spade-husbandry and irrigation are carried on to a great extent. The Chinese have a strong perception of the value of night soil as a manure; it is everywhere saved, bears a high price, and is collected in a manner exceedingly offensive to European notions. In the n. provinces, the cereals are principally maize, barley, and wheat; but in the s., rice is raised in vast quantities, and forms the staple food of the people. Tobacco and the poppy also are raised in considerable quantities.

Animals.—Very little is really known of the zoology of China. Some of the more ferocious of the carnivorous animals still linger in the jungles of Yun-nan, and are occasionally found along the whole of the Nan-ling range of mountains as far as Ning-po, where there is a mart for their skins. Wild cats are common in the forests of the s., and bears are still found in the hills of Shan-se. Of the ruminantia are the musk-deer (*Moschus moschiferus*), the moose-deer, and a few other species. The gold and silver pheasant, the argus pheasant, and other gallinaceous birds are prominent in the ornithology of China. Fly-catchers, thrushes, grackles, and goat-suckers have their representatives in China, and there are several species of crows, jays, and magpies. Water-fowl inhabit the lakes, rivers, and marshes. The larger reptiles are unknown; but tortoises and turtles abound on the coast, and lizards are plentiful in the south. The ichthyology of China is considered to be one of the richest in the world. Sharks, rays, sturgeons, and other cartilaginous fishes, are common on the coast; and the carp formerly was very plentiful in the lakes and rivers. The goldfish was introduced into Europe from China. Of insects, the arachnidæ are large and

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numerous; indeed, a tree-spider captures and kills small birds. Locusts often commit extensive ravages. Silk-worms are highly valued, and reared in large numbers.

Inhabitants.—The Chinese proper, by far the most numerous race, are the most important of the Mongolo-Tata stock (to which the other races in the empire also belong). See CHINESE LANGUAGE, WRITING, AND LITERATURE. A tawny or parchment-colored skin, black hair, lank and coarse, a thin beard, oblique eyes, and high cheek-bones, are the principal characteristics of the race. The average height of the Chinaman is about equal to that of the European, though his muscular power is not so great; the women are disproportionately small, and have a broad upper face, low nose, and linear eyes. Of the general character of the Chinese, it is not easy to form a fair and impartial judgment; and those who have resided long in the country, and know them well, have arrived at very different conclusions. M. Huc asserts that they are ‘destitute of religious feelings and beliefs,’ ‘skeptical and indifferent to everything that concerns the moral side of man,’ ‘their whole lives but materialism put in action;’ but ‘all this,’ says Mr. Meadows, ‘is baseless calumny of the higher life of a great portion of the human race.’ He admits, indeed, that these charges are true of the mass of the Chinese, just as they are true of the English, French, and Americans; but as among the latter peoples there is a large amount of generosity and right feeling, and also ‘a minority higher in nature, actuated by higher motives, aiming at higher aims’, so also, he maintains, is there among the Chinese a similar right feeling, and a like minority who live a higher life than the people generally. See HIOUENTHSANG. As regards valor, their annals record ‘deeds akin to the courage of antiquity;’ they have no fear of death, commit suicide as the solution of a difficulty, and endure the most cruel tortures with a passive fortitude; but neither their weapons nor discipline enable them to stand before European forces. The Chinese are, as a race, unwarlike, fond of peace and domestic order, capable of a high degree of organization and local self-government, sober, industrious, practical, unimaginative, literary, and deeply imbued with the mercantile spirit. It is to be observed that the inhabitants of China proper are essentially one people; the differences, except in dialect, being hardly more marked than those in England between the Northumbrian peasant and the Cornish miner. The s.e. Chinese—the people of Kwang-tung, Fuh-keen, and the south of Che-keang—are the most restless and enterprising in all the 18 provinces, and may be regarded as the Anglo-Saxons of Asia. In the mountainous districts of the four s.e. provinces of China, but principally in Kwang-se, are certain tribes who maintain a rude independence, wear a peculiar dress, and are descended from the aboriginal inhabitants of China. Of these, the Meao-tze are the best known.

The manners and customs of the Chinese can only here

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be glanced at. The worship of ancestors is a remarkable and prominent feature in their social life, and is dictated by that principle of filial piety which forms the basis of Chinese society. The rich have in their houses a chamber—a kind of domestic sanctuary—dedicated to their fore-fathers. Tablets, representing the deceased persons, and inscribed with their names, are here carefully preserved; and at stated seasons, prostrations and ceremonies are performed before them according to the book of rites. All Chinese offer worship from time to time at the tombs of their parents. In everything that relates to death and sepulture, the customs of the Chinese are no less singular. They meet their last enemy with apparent unconcern; but while their future state troubles them little, they regard the quality of their coffins as of vital importance, and frequently provide them during their lifetime; indeed, a coffin is reckoned a most acceptable present, and is frequently given by children to their parents. ‘To be happy on earth,’ say the Chinese, ‘one must be born in Su-chew, live in Canton, and die in Lianchau’—Su-chow being celebrated for the beauty of its women, Canton for its luxury, and Lianchau for furnishing the best wood for coffins. Yet death is never alluded to in direct terms, but indicated



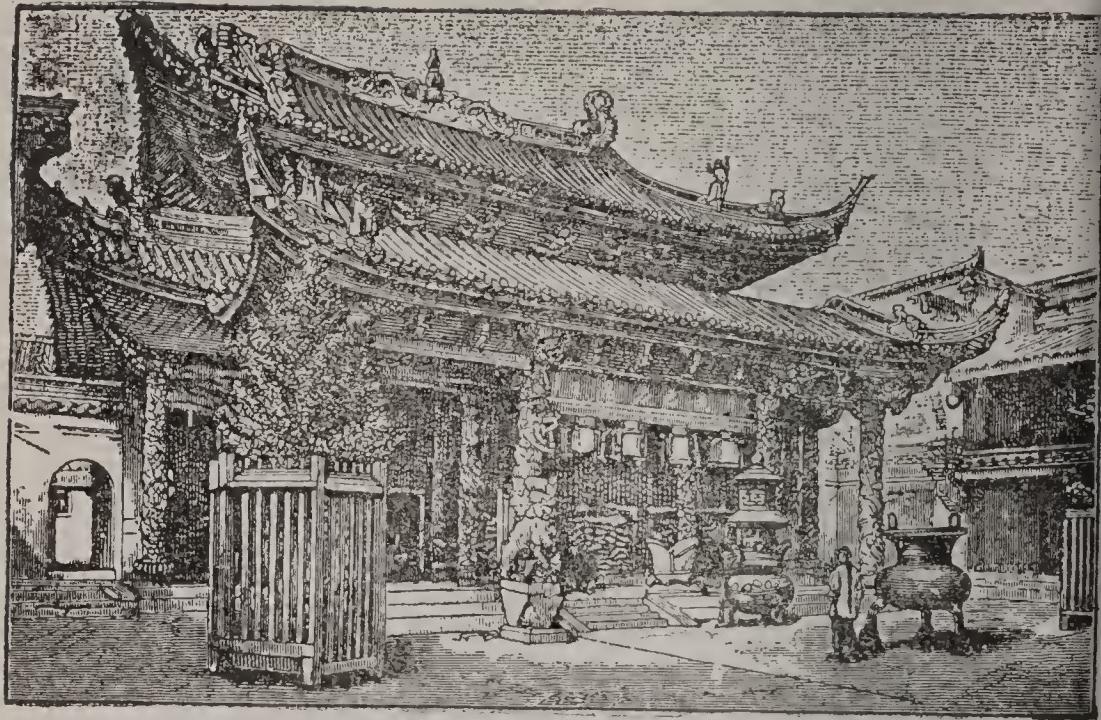
Chinese (Marriage) Match-makers.

rather by periphrases, such as—the person ‘exists no more,’ ‘he has saluted the age,’ ‘ascended to the sky,’ etc. Banquets are offered to the dead, and pathetic speeches addressed to them. In China, *marriage* is universal, and within the reach of all; but there is a strict separation of the sexes, and betrothal is undertaken by the parents or by professional match-makers. Minute ceremonial observances regulate every step, and frequently the bride and bridegroom see each other on the wedding-day for the first time. Women hold a very inferior position, and are little better than slaves. Polygamy is not recognized by law,

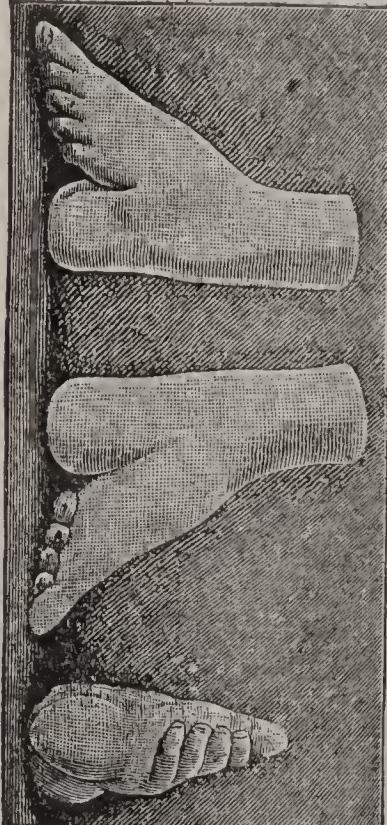
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but secondary wives are common, especially when the first proves barren. Infanticide, though regarded as a crime, is undoubtedly practiced to some extent, as is proved by edicts issued against it; and parents possess almost unlimited authority over their children. The intercourse of the Chinese with each other, especially of the upper classes, is regulated by a tedious and elaborate etiquette; indeed, they are the slaves of custom, and everything is done by precedent. Many curious instances of Chinese politeness might be cited. The well-bred host presses many things on a visitor, which the latter must never dream of accepting. 'A Chinaman,' says Mr. Oliphant, 'has wonderful command of feature; he generally looks most pleased when he has least reason to be so, and maintains an expression of imperturbable politeness and amiability, when he is secretly regretting devoutly that he cannot bastinade you to death.' The *Le-king*, or book of rites, regulates Chinese manners, and is one cause of their unchangeableness; for here they are stereotyped, and handed down from age to age. The ceremonial usages of China have been estimated at 3,000; and one of the tribunals at Pekin—the board of rites—is charged with their interpretation. Chinese cookery, in the use of made dishes, more nearly resembles the French than the English. Birds' nests soup, sharks' fins, deer-sinews, and ducks' tongues, are among its delicacies. The wine, or (more correctly) weak spirit (*tsew*), used by the Chinese is made from rice; and from this, again, they distil a stronger spirit, the 'samshoo' of Canton. The former is drunk warm in minute cups at their meals; tea never appears during a repast, though it may be taken before or after. The Chinese have numerous festivals; and perhaps the most remarkable of these is that celebrated at the commencement of the new year, when unbounded festivity prevails. Preparatory to this, debts are settled, and the devout repair to the temples to gain the favor of the gods. The first day of the year may, in one sense, be reckoned the birthday of the whole people, for their ages are dated from it. Visiting is, at the same time, carried on to a great extent, while parents and teachers receive the prostrations and salutations of their children or pupils. The festival of the dragon-boats is held on the fifth day of the fifth month; and at the first full moon of the year, the feast of lanterns. In the manufacture of these the Chinese excel; and on the night of the festival, lanterns illuminate each door, wonderful in their variety of form and material.

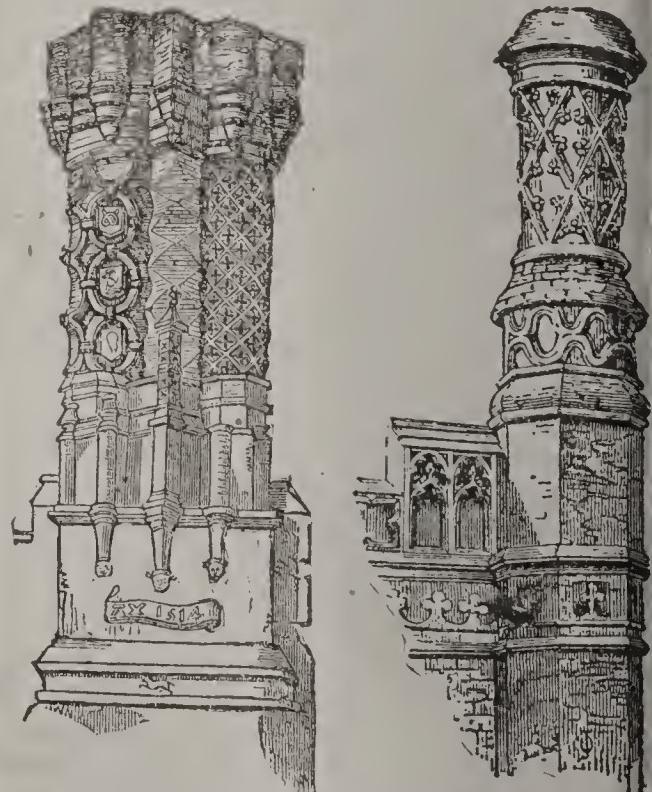
In the matter of dress, the Chinaman exhibits his usual practical sense, and varies the material according to the season, from cotton-wadded or fur-lined coats to the lightest silk, gauze, or grass-cloth. On the approach of cold weather, he lights no fire in his dwelling, but puts on additional clothing until the desired temperature is attained. A tunic or kind of loose jacket fitting close round the neck, and wide short trousers, are his principal garments. Shoes are made of silk or cotton, with thick, felt soles. White is the color of mourning. The Tatar tonsure and braided queue



China.—Temple of the Goddess Ma Tsu-pu, Ning-po.



Foot of Chinese Girl (aged 16 years) in three positions. Length of foot 4 3-8 inches.



Chimney.—Thornbury Castle, Gloucestershire, 1514.

Elizabethan Chimney, East Barsham Norfolk.

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became general with the Mantchu conquest of the country, since which 180 millions of men have the hair removed from their heads at short intervals; and as no Chinaman is his own barber, a great number of this calling find employment. The Chinaman is very sparing in his ablutions, and appears to be afflicted with a strange hydrophobia; for cold water, either as a beverage or for washing his person, he holds in abomination. Long nails are fashionable. The costume of the women differs little from that of the men, and their shoes are the most remarkable part of their toilet. A lady's shoe measures about three and a half inches from the heel to the toe. The feet of the Tatar women are left as nature made them; but among the Chinese, all young girls of the better classes are crippled by a tyrant custom. In early infancy the feet are tightly bound, the four small toes being tucked under the sole, of which, after a time, they become a part, and the heel is brought forward. The process is at length complete; stumps have been substituted for the ordinary pedal extremities, and the Chinese lady totters on her goat's feet.

The principal *manufactures* of the Chinese are silk, cotton, linen, and pottery, for which latter they are especially celebrated. The finest porcelain is made in the province of Keang-se. The Chinese invented printing in the beginning of the 10th c. after Christ, and in 932, a printed imperial edition of the sacred books was published. The skill of the Chinese in handicraft is astonishing. Their rich silks and satins, light gauzes, beautiful embroidery, elaborate engraving on wood and stone, delicate filigree-work in gold and silver, carvings on ivory, fine lacquered ware, antique vessels in bronze, and their brilliant coloring on the famous pith paper, command our admiration.

Of the grand modern discoveries in the *physical sciences* the Chinese are profoundly ignorant, and the study of nature is altogether neglected. The Chinaman objects to be wiser than his forefathers, but spends a lifetime in studying his classical literature and the sages of antiquity; and here is doubtless one great cause of the homogeneity of the race, and the stereotyped nature of the Chinese mind. The nation presents a case of arrested intellectual, social, and spiritual development.

Of *animal physiology and medicine* the Chinese have very crude notions, as is shown by their *scheme* of the human body, in which the heart is placed in the centre, with the other organs ranged round it, and their unphilosophical theory of the pulse, which plainly demonstrates that they are ignorant of the true circulation of the blood, and the vascular system in man; hence their practice of medicine must be empirical. Chinese physicians believe that man is composed of five elements; that so long as each maintains its due proportion, health is preserved; but should one gain the ascendency, illness follows, and the equilibrium must be restored by proper remedies. Acupuncture is practiced. The Chinese have had recent opportunity of practically testing the superiority of Western medical science, by the establishment of English and American hospitals by the

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establishment of a university with foreign professors at Pekin, and by extensive translations of scientific works into Chinese.

In vol. xxiv. of *Nature* (1881) will be found an interesting account of the progress of science in China by means of the translations made under the authority of the department for the translation of foreign books at the Kiangnan arsenal, Shanghai. Up to 1881, 98 works (mostly scientific) in 236 volumes had been published, and upward of 30,000 copies of these works (83,500 vols.) had been sold.

Government.—In the centralized autocratic government of China, the emperor is absolute in the empire, the governor in the province, the magistrate in the district. The emperor claims no *hereditary* divine right, and is not always the eldest son of the preceding monarch; the ablest son is nominated, but his right to the throne as the *Teen-tze*, or *Tien-tze*, ‘son of heaven,’ the *Fung-tien*, ‘divinely appointed,’ can be established only by good government, in accordance with the principles laid down in the national sacred books. If, on the contrary, he violates these principles, the people firmly believe that heaven signifies, by unmistakable signs, that their ruler is not its chosen representative. ‘The rivers rise from their beds, the ground sullenly refuses its fruits, the plains tremble, the hills reel, and the typhoon rages over seas and coasts, all alike uttering a “Numbered, numbered, weighed, and parted,” that requires no interpretation, but is read in anxiety by the people, in dismay and terror by the prince,’ who seeks by repentance, and a return to the true principles of the government, to avert his doom. The emperor is absolute as legislator and administrator; but he must legislate in accordance with the general principles acknowledged in the country. He also constitutes, in his own person, the highest criminal court. The Chinese possess a carefully digested code of laws, which is added to and modified from time to time by imperial edicts. Their penal code commenced 2,000 years ago, and copies of it are sold at so cheap a rate as to be within reach of people of the humblest means. Death, which the Chinaman prefers to long confinement, is the penalty for a large number of offences, and in ordinary years about 10,000 criminals are executed. Several modes of torture are legal. The emperor is assisted in governing by two councils—1. *The Inner or Privy Council*, composed of six high officials, three of whom are Chinese and three Mantchus. The four senior ministers exercise functions corresponding to those of an English prime minister. 2. *The General or Strategical Council*, which closely resembles the British cabinet, being composed of the most influential officers in the capital, who exercise high legislative and executive duties. Under these are six *yamuns* or colleges of government each charged with a distinct department of government. Over all is the court of general inspection, or the *Censorate*, as it is called by foreigners. The mandarins composing this number 40 to 50; they are ‘the eyes and the ears of the emperor,’ for it is their province to see that all officers of the govern-

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ment, provincial or metropolitan, are faithful in the discharge of their respective duties; and they alone have the right to make representations or complaints to the emperor.

The *administrative machinery* of the Chinese is very perfect in its organization, and demands an attentive consideration for the right understanding of the people and government. In each of the 18 provinces is an imperial delegate or governor who, besides being at the head of the civil jurisdiction is commander-in-chief, and possesses the power of life and death for certain capital offenses. He is privileged to correspond with the cabinet-council and the emperor. Under the governor are the superintendent of provincial finances, the provincial criminal judge, and the provincial educational examiner; each communicates with his especial board in Pekin. The governor is also assisted by many other judicial and administrative officials. The governmental organization of each province is complete in itself, but in a few instances two provinces—Kwang-tung and Kwang-se, for instance—form a viceroyalty, over which a gov.gen. in addition to the governors, exercises authority. Every province is again subdivided into districts, departments, and circuits. The average number of districts in a province is 80, each of about the size of an English county. A civil functionary, called sometimes the district-magistrate, presides over this division and is assisted by several subordinate officers. A group of districts—six is the average number for the whole 18 provinces—forms a dept. and is ruled by a prefect who resides in the *fu* or departmental city. Three departments, on an average, constitute a circuit, of which an intendant (*Taoutae*) has the charge.

The several grades of mandarins or Chinese government officials (Chinese name, *kran-fu*), are distinguished chiefly by a different-colored ball or button on the top of the cap. There are 12 orders of nobility confined to the imperial house and clan, and also five ancient orders of nobility open to the civil and military servants of the state. The normal government of China is less a despotism than a morally supported autocracy, and it is in principle paternal. What the father is to his family, that the governor, the prefect, and the magistrate are intended to be, each in his own sphere, to the people; while in theory the emperor stands in the same relation to the myriad inhabitants of his vast dominions. In ordinary times the Chinaman enjoys much practical freedom and can travel through the country without passport or follow any calling he likes.

The Chinese executive system is based on those noteworthy *competitive examinations*, which are intended to sift out from the millions of educated Chinese the best and ablest for the public service. The first examination takes place every three years in the cap. of each dept. when the lowest degree—that of bachelor—is conferred on a certain number of candidates from each district. Triennial examinations are held in the provincial capital, presided over by two examiners from Pekin at which sometimes as many as 10,000 bachelors present themselves and compete for

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the degree of licentiate. Some 1,200 obtain it and these may attend the triennial metropolitan examination at Pekin, when about 200 may hope for the coveted degree of doctor, which insures immediate preferment.

Much has been written by English authors on Chinese government. Mr. Meadows, from whose works the foregoing sketch of the administrative system of the country has been chiefly derived, has entered very fully into what may be termed the *philosophy of Chinese government*, which he sums up in the following doctrines, and believes them to be deducible from the classic literature of the country, and the true causes of the wonderful duration of the Chinese empire. 1. That the nation must be governed by moral agency in preference to physical force. 2. That the services of the wisest and ablest men in the nation are indispensable to its good government. 3. That the people have the right to depose a sovereign who, either from active wickedness or vicious indolence gives cause to oppressive and tyrannical rule. And to these he adds an institution—the system of public-service competitive examinations. But, on the other hand, these examinations, by directing the attention of students solely to the ancient literature of the country, to the exclusion of the physical sciences and inductive philosophy, however efficient in producing that wonderful homogeneity for which the inhabitants of the central kingdom are famous, tend to stunt and stereotype the national mind, which, like the dwarfed tree that the Chinaman delights to raise in a flower-pot, or the feet of a Chinese girl, can never fully expand.

Education.—As already shown under *Government*, edu-



Collectors of Paper Scraps.

cation is the surest road to official employment, rank, and influence. The principal institution for those desirous of obtaining literary degrees—the chief passport to the public service—is the Tung Wen Kwan (College of Foreign Knowledge) in Pekin, where thorough instruction is given in the English, French, German, and Russian languages, and in mathematics, astronomy, meteorology, chemistry, natural history, physiology, anatomy, and western litera-

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ture. Each village has at least one school. There are several flourishing colleges maintained by Protestant and Roman Catholic missionary societies, principally at Shanghai. The govt. has established a number of naval and military academies and torpedo schools, and the principal ports have elementary schools.

Army.—Officially the empire has an enormous army, but the war with Japan proved that the available fighting force was small in numbers, and surprisingly deficient in equipment and discipline. The latest estimate, published 1895, shows that officially the army is composed of the Eight Banners, comprising 323,800 officers and men; and the Ying Ping, or national army, comprising 6,459 officers and 650,000 privates. Another division designates an active army, comprising the armies of Manchuria, of the Centre, and of Turkestan; and a territorial army, locally known as Braves, and in reality local militia, supposed to number 200,000 officers and men on a peace footing, and 600,000 in war. The army of Manchuria has an estimated strength of 70,000 men, is divided into two corps, and has headquarters at Tsitsihar and Moukden; and the army of the Centre has a peace effective of 50,000, capable of being doubled in war, and has headquarters at Kalgan. The army of Turkestan, scattered along the extreme w. territory, is virtually kept on police duty, and in time of war could not be spared for operations elsewhere. As evidence of the smallness of the active army, it was reported that in the 20 principal battles with the Japanese between 1894, July 24, and 1895, Mar. 6, the total Chinese losses were 8,000.

Navy.—The entire naval force of the empire is organized into district squadrons, which were raised and maintained by the provincial viceroys, and its effectiveness was minimized at the beginning of the war of 1894–5 by the Tsung-li-Yamen directing it to remain in Chinese waters. Before the war the fleet was divided into the North Coast and Foo-chow squadrons and the Shanghai and Canton flotillas. The North Coast squadron comprised 4 barbette sea-going armor-clads, a turret-ship, 3 deck-protected cruisers, 4 torpedo cruisers, 11 gun-boats, and a torpedo flotilla; the Foo-chow squadron had 10 cruisers, 3 gun-boats, 9 dispatch boats, and 3 revenue cruisers; the Shanghai flotilla had an armored frigate, a gun-boat, 6 floating batteries of wood, and 3 transports; and the Canton flotilla, 3 deck-protected cruisers and 13 gun-boats. A general classification of this force would show: 1 first-class, 1 second-class, 3 third-class battle-ships; 9 port-defense vessels; 9 second-class, 47 third-class cruisers; 2 first-class, 26 second-class, 13 third-class torpedo-boats; and other vessels, making a total of 111. In the war her losses by capture, surrender, and destruction aggregated 29 vessels, several of which were considered among the most formidable war-ships afloat.

Revenue.—Only the receipts from the foreign customs are published. The ordinary revenue and its sources are estimated as follows: Land tax, \$15,200,000; maritime customs, \$17,860,000; transit levy on foreign and domestic

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goods and opium, \$8,360,000; salt taxes and levies, \$7,296,000; maritime and inland native customs, \$4,560,000; rice tribute, \$2,128,000; and licenses, \$1,520,000—total, \$56,924,000. Another estimate places the revenue from all sources at about \$125,000,000 per annum. The principal expenditure is for the maintenance of the army. The navy is maintained by the viceroys. The empire had no foreign debt till 1874. From that year till early 1895 (when a war loan of \$15,000,000 was raised) the total loans aggregated—including the first war loan—\$45,000,000.

Production and Industry.—There is no other country in which every available acre of land is so carefully cultivated, even hillsides being utilized by terracing. Rice, the great staple food of C., is grown chiefly in southern provinces; while wheat, corn, barley, and millet are cultivated in the northern. Tea (q.v.), though cultivated for domestic use in a large part of C., is only grown for export in the provinces of Fuh-keen, Hu-pih, Hu-nan, Gan-hwuy, Keang-se, Che-keang, and Kwang-tung. Silk is one of the great industries, and the best comes from Kwang-tung, Sze-chuen, and Che-keang; but the mulberry tree grows everywhere, and silk for domestic use is produced in all the provinces. Opium is becoming a crop of increasing value. Cotton is grown to considerable extent for domestic use, though not in sufficient quantity to supply half the home demand. Although there are undoubtedly large beds of coal throughout the empire whose future value will be very great, only a few mines under foreign supervision have been very successfully worked. Copper and iron are also found in large quantity.

Transportation and Telegraphs.—The roads are hardly more than paths, and pack animals and hand carts form the chief means of land transportation, but the larger part of the internal commerce is carried on by means of canals and rivers. Railroads have not yet been built, except two insignificant lines of 10 miles; but a line from Pekin to Hankow has been authorized. Government telegraph lines now connect Pekin with the chief cities of the empire.

Commerce.—The chief imports 1893 were cotton goods, opium, metals, petroleum oil, sea-weed, fishery products, woolen goods, coal, and raw cotton; and exports, raw and manufactured silk, tea, sugar, straw braid, clothing, paper, chinaware and pottery, and cow and buffalo hides. The imports had a value of \$98,223,771, the exports a value of \$100,283,184. During that year, 37,902 vessels, of 29,318,811 tons, entered and cleared the various ports: of these 29,761, of 28,277,050 tons, were steamers. The nationalities of the vessels were: British, 19,365; Chinese, 14,270; German, 2,142; Japanese, 623; France, 167; and the U. S., 63.

There is no coinage in China except the copper *tchen*, or 'cash,' which is in value about the fifteenth of a cent; and all but the most trifling payments are made by a certain weight of silver, or in Mexican or Spanish dollars. Chinese accounts are kept in taels, mace, candareens, and cash. A Shanghai tael was worth (1895) \$.685; a Haikwan tael, \$.763.

Religion.—The Chinese, remarkable in so many ways, exhibit, in religion, their usual eccentricity. Three forms of belief—the Confucian, the Buddhist, and the Taoist—may be considered national religions, as they are believed in, more or less, by the great mass of the people. Of these, the Confucian and the Taoist are indigenous, but Buddhism was introduced from India. A struggle for ascendancy was long maintained between these religions, but has now entirely ceased; indeed, it is no unusual thing for all three to be professed by the same person, and as they supplement each other, this is not altogether inconsistent. Confucianism is the basis of the social life and political system of the Chinese. It has been professed by all their greatest men, and is still the sole belief of the educated classes. It is, however, less a religion than a philosophy, and does not pretend to treat of spiritual things; hence room was left for other creeds to supply its deficiencies in this respect. The questions to which Confucius attempted a reply were: ‘How shall I do my duty to my neighbor? How can I best discharge the duty of a virtuous citizen?’ Funereal temples are erected to Confucius, and though his image is not used as an idol, his tablet is worshipped, and sacrifices of oxen and sheep are offered before it at the vernal and autumnal equinoxes. For an account of Confucius’s philosophy, see CONFUCIUS.

Buddhism in China, though extending over the whole country, and influencing more or less the mass of the people, is fast losing its hold on them, and has very little of the power and authority that it formerly possessed. Its edifices are going to decay, and few new one rises upon their ruins. Its priests are illiterate, and together with their religion, are held in contempt by the philosophic Chinaman. Aged people and women are now its chief devotees. The accompanying sketch of the begging-monk (taken, as well as the other cuts, from Cobbold’s *Pictures of the Chinese by Themselves*) is characteristic. He wears a loose yellow robe and large stockings; at his back is a wallet in which to receive the contributions of the faithful; and he gives notice of his approach by striking his *muh-yu*, as represented in the illustration. The northern form of Buddhism, which differs considerably from that of Ceylon and the Indo-Chinese Peninsula, prevails in China. Its sacred books, in common with those of Nepaul and Tibet are written in Sanscrit, or are translations from that language. Among other additions to the creed are the Western Paradise and the Goddess of Mercy.



Chinese Buddhist Monk.

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Taoism has not more hold than Buddhism on the literate Chinese. Its priests are generally ignorant men, few of them teaching or understanding the real principles of their faith. They practice a mystic alchemy, prepare spells and incantations, and, like modern spiritualists, claim to hold intercourse with the dead. When all other remedies have failed with a sick person, the Taoist priests are sometimes



Chinese Taoist Priest exorcising.

sent for to exorcise the evil spirit that is supposed to afflict the patient; and they chant prayers from their mystic ritual, amid the din of gongs, drums, flutes, etc. These mystics worship certain stars, which are supposed to influence human life, and also genii, devils, and inferior spirits. They live in temples with their families, and are known by their slate-colored robes. For a fuller account of Taoism and its doctrines and founder, see LAO-TSE.

Besides these three religions, which alone affect the bulk of the people, there is a *ritual state worship*, which regards the emperor and court alone—a kind of philosophic pantheism, an adoration of certain natural objects; but it is a mere ceremonial, and associated with no system of theological doctrines. Three classes of objects are distinguished, to which the great, medium, and lesser sacrifices are offered. The first class includes the heaven and the earth. Equal to these, and likewise restricted to the worship of the emperor, is the great temple of imperial ancestors. The medium sacrifices are offered to the sun and moon, the gods of the land and grain, genii, and sages. In the third class are reckoned certain natural phenomena, as well as deceased statesmen and scholars. The emperor appears to acknowledge a Supreme Being as king of kings, the rewarder of virtue and the punisher of vice; nevertheless, Chinese philosophy, as fixed by Chu-tze, is atheistical, and deduces 'the development of the universe from one unintelligent and will-less principle.' Hence all educated Chinese are atheists, at least theoretically, as will be found by arguing with them; but when they speak of human affairs generally, and their own particular lot in life, they exhibit a belief in Teen as a supreme, intelligent, rewarding, and punishing

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power. There are besides some 30,000,000 of Mohammedans within the limits of the empire.

Between the followers of the three national religions there is not only a total absence of persecution and bitter feeling, but a very great indifference as to which of them a man may accept. It arises probably from religious apathy; preferable to the fanatical zeal of the Moslem. Among the politer classes, when strangers meet, the question is asked : ' To what sublime religion do you belong ? ' and each one pronounces a eulogium, not on his own religion, but on that professed by the others, and concludes with the oft-repeated formula : ' Religions are many ; reason is one ; we all are brothers.' The government is equally tolerant of religious diversity, except where a political design is suspected.

Temples belonging to the three religions are very numerous. Those dedicated to Confucius are funereal in character. The Buddhist temples are crowded with images, and Buddha is represented expounding his doctrine to attentive listeners. The many-storied tower takes the place of the bell-shaped dagoba or relic-shrine of other Buddhist countries.

History and Foreign Intercourse.—The early annals of China, like those of most other countries belong rather to mythology than to history. It is held that beginning with Pan-ku, the first of all beings, the country was ruled over first by gods, and then personages descended from gods, who revealed to men the essential arts of life. Of those mythical rulers the most famous is Fo-hi. The historical period may be said to commence with the Hia period or dynasty, begun by Yu the Great about B.C. 2200, though a great infusion of the fabulous still continues in this period. Some date the real history of China from the Tchow or Chow dynasty, which began with Wu-wang about (B. C. 1100. It was during the reign of Ling-wang (B.C. 571–544), one of this dynasty, that Confucius was born. China seems during this period to have been divided into a number of independent states. The kings of Tsin gradually gained the ascendancy, and at last one of them reduced the other states to subjection (B.C. 247), and assumed the title of Hoang, or emperor. It is from the Tsin dynasty that the country has taken its name, Tsina or China. This first emperor finished the great wall (see above), as a protection against the Tatars, who had all along, under the name of Hiong-nu (Huns), been a source of danger and annoyance to the richer and more pacific Chinese. Various dynasties followed, with frequent divisions and reunions of the empire, varied by incursions and partial subjugations by the troublesome Tatars. At last, the Mongols or western Tatars, being called in to aid the Chinese (1209), became finally (see KUBLAI KHAN) masters of the whole country (1279), and reigned over it till 1368, when they were expelled by the Chinese, and the Ming native dynasty succeeded, which lasted 276 years, and fell at length through its own misgovernment. A general of the last Ming emperor, who was employed in keeping the Mantchus (q.v.) in check, made peace with them, and obtained their assist-

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ance against the native usurper who had deposed his sovereign. The Mantchus established themselves in Pekin (1644), and finally, after a seven-years' struggle, acquired the sovereignty of the whole empire. Many of the conquering race now filled the highest offices of state, and owed their position to birth alone. More than one powerful emperor of the race has ably conducted the government of the country; but Hien Fung, who ruled 1850–61, was reported to have passed his time in a state of drunken imbecility. The late emperor, Tung-chi, succeeded to the throne when only a child five years old, but the government was ably carried on under the co-regency of the empress-dowager, Tze-an, the empress-mother, Tze-sse, and the enlightened Prince Kung, brother of Hien Fung. Tsai-Tien, cousin of Tung-chi, ascended the throne 1875. As he was then only about four years old, the empresses continued to act as regents.

Of recent events in Chinese history, the most remarkable is the rise, progress, and overthrow of the Tae-ping rebels. Their famous leader, Hung-sew-tseuen, was a man of humble origin, and an unsuccessful candidate for government employment. Some Christian tracts, it is said, led him to renounce idolatry, and he founded a society of worshippers of God, which, in the autumn of 1850, was brought into collision with the imperial authorities, and immediately assumed a political character. Hung persuaded himself and his followers that he had received a divine commission to uproot idolatry, extirpate the Tatar intruders in the country, and establish the new native dynasty of Tae-ping, or Universal Peace. He assumed the title of heavenly or divine prince (Tea-ping-wang, sometimes called Tien-wang), and bestowed the titles of eastern prince, western prince, southern prince, northern prince, and assistant prince on five of his chosen leaders. The fanatical principle of divine revelations and other extravagances followed. They spoke of Tien-ma, the wife of the Heavenly Father; they held that Tien-wang was the son of God as really as Jesus, and worshipped him accordingly. Polygamy was a dark feature of their system, the Tien-wang himself having married 30 wives. The course of this religio-political rebellion, the victorious march of the Tae-ping army from Kwang-se to Nankin 1850–53, and its subsequent career, cannot here be traced. After a series of wasteful and revolting barbarities, it was finally suppressed, 1865, by the imperial troops, led by British and American officers, of whom the most conspicuous and able was Colonel Gordon: see TAE-PINGS.

In early times, the Chinese do not appear to have been opposed to intercourse with foreigners; but the conduct of the Spaniards and Portuguese 1520–70 excited their hostility. The Mantchu government restricted British trade and intercourse to Canton, where it was carried on through the medium of the *hong* merchants on the one side, and the E. India Company on the other. Differences arose, however, from time to time between these two commercial bodies, occasioned chiefly by the exactions of the mandarins, on

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foreign trade. With a view to a better understanding, the British government despatched to Pekin an embassy under Lord Macartney 1792, and another under Lord Amherst 1816. 1834, Apr. 22, the monopoly of the E. India Company ceased, and British imperial officers were appointed to carry out the new judicial and fiscal arrangements. Constant dissensions between these and the mandarins continued till the end of 1839, when the latter, claiming the purpose of stopping the opium trade as injurious to their people, committed acts of open hostility. A war broke out the following year, at the commencement of which Chinese officials talked of invading England overland, by way of Russia. The imperial government was, however, sufficiently humbled by the middle of 1842, Aug. 29, and a treaty of peace was signed before Nankin, by which the ports of Amoy, Fu-chow, Ning-po, and Shang-hae were, in addition to Canton, thrown open to foreign trade. The other most important articles of the treaty provided that the island of Hong-kong should be ceded in perpetuity to her Britanic majesty, her heirs and successors, and that the emperor of China should pay \$1,000,000 toward the expenses of the war.

With five free ports, British trade with China soon assumed gigantic proportions; and though the Chinese evaded the treaty whenever practicable, no important event occurred to interrupt commercial intercourse till 1856, Oct. 8, when the authorities at Canton seized the crew of the lorcha *Arrow*, a vessel registered at Hong-kong, and entitled, it was considered, to British protection. Under pressure from the British forces at hand, the imperial commissioner Yeh, delivered up the men, but refused all apology. Yeh continuing obstinate, Canton was stormed 1857, Dec 28, by the allied French and English forces, and the Chinese imperial commissioner captured 1858, Jan. 5. The government of the city was still carried on by Chinese officials, but under the authority of the plenipotentiaries and commander-in-chief. The former now proceeded to the north of China, to put themselves in more direct communication with the imperial government, which still continued obstinate. The forts at the mouth of the Peiho were taken 1858, May 20, and at length an important treaty was signed at Tien-tsin, 1858, June 26, which stipulates that the queen of Great Britain may (art. ii.) appoint diplomatic agents to the court of Pekin who (art. iii.) shall be allowed to reside at the capital, where also her majesty may acquire a building site. The Christian religion (art. viii.) shall be protected by the Chinese authorities. British subjects (art. ix.) shall be allowed to travel for pleasure or business to all parts of the interior, under passports issued by their consul. British merchant ships shall trade (art. x.) upon the Great river (Yang-tze); but as its lower valley is disturbed by outlaws, no port except Chin-keang shall be opened for the present. Chin-keang to be opened in a year from the date of the signing of the treaty.

By this treaty the vexed question of transit-dues is set-

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tled, it being agreed that the British merchant may purchase at the rate of $2\frac{1}{2}$ per cent. *ad valorem*, in the case of imports at the port of entry; and in the case of exports, he may purchase a certificate enabling him to pass his goods, duty-free, to the port of shipment. By a separate clause, the Chinese government agreed to pay two million taels (about £650,000), of indemnity for losses sustained by British subjects at Canton, and a like sum toward the expenses of the war.

The repulse on the Peiho (1859, June), by a Tatar force concealed in the Taku forts, of the expedition forming the escort of the British and French ambassadors, who were on their way to Pekin, to ratify with the emperor of China the treaty of Tien-tsin, entailed another costly demonstration in the Chinese waters. The Taku forts were captured by the allied English and French forces, 1860, Aug. 21, and Pekin itself 1860, Dec. The treaty of Tien-tsin was ratified, two additional articles being inserted, one of which legalized coolie emigration. Since 1861, a gradual but beneficial change has come over the spirit of the Chinese government. Prince Kung proved a vigorous and successful regent. The army has been reorganized, and is now subjected to European drill (see above, *Army*); a respect for the observance of treaties has sprung up; a national flag has been adopted, and a desire shown on the part of the Chinese to make themselves acquainted with international law. In 1866, emigration to all other countries was allowed. Shanghai has telegraphic communication with Europe, and Tien-tsin and Pekin are, since 1880, connected with Shanghai. In 1883, the Chinese proposed a telegraph from Canton to Shanghai. The first Chinese railway opened at Shanghai 1876, was unfortunately closed again. Chinese are now found on almost every shore of the Pacific, where their industry, skill, and sobriety secure them abundant employment. They are especially numerous on the Pacific coast of the United States, where harsh measures, including first a heavy tax on arriving, and later, laws aiming at almost entire exclusion, were adopted. Between 1855-80, more than 215,000 Chinese had established themselves in the United States: see CHINESE EXCLUSION ACT. The Chefoo convention, 1876, opened three additional ports. In 1879, China seemed likely to go to war with Russia about the possession of Kuldja; but a treaty was concluded 1881 between the two countries, in which the territory of Ili, including the town of Kuldja, was given up to China, while the latter agreed to pay an indemnity. In 1883, China resisted the occupation of Tonquin by the French; but in 1884, and again in 1885, signed a treaty recognizing a French protectorate over Tonquin and Anam, and agreeing to open her own three s. provinces to French trade. The rebellion in the n. provinces which broke out at the close of 1891 made heavy demands on the govt. The officers were instructed to take no prisoners, and the insurrection was repressed at the estimated cost of nearly 100,000 lives. Meanwhile, in the

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south there was an uprising against the Christian missionaries—in that region Rom. Catholic—and a massacre of about 300 Belgian priests, nuns, and native converts. A little later similar disturbances occurred in Manchuria. The Chinese govt. suppressed the riot. Enormous claims for damages were filed, for which payment was enforced from the provincial authorities. Investigation showed the existence of secret societies, and of a band of conspirators, many of whom were govt. officials of high rank, whose chief object was the expulsion of all foreigners from the country. In 1892, Sep., a destructive inundation of the Yellow river ravaged portions of three provinces, and washed away 12 towns.

The War with Japan.—The dispute between China and Japan that culminated in the war of 1894–5 was several centuries old and was based on a mutual desire for supremacy in Korea. China claimed a suzerainty over Korea, which had been acknowledged practically by both Korea and Japan for many years; and Japan, acquiring large commercial interests in Korea, was anxious to secure a more progressive form of govt. there than the Chinese officials were willing to grant. In 1894, Mar., a conspiracy to overthrow the King of Korea was discovered; on June 6 the king applied to China for assistance; and immediately Japan sent a large force of troops into Korea, and occupied its capital. Active hostilities opened July 25, when three Japanese cruisers met off Phungdo three Chinese cruisers convoying troops to Korea. One of the Chinese vessels was captured, a gun-boat was driven ashore and destroyed, a protected cruiser steamed away during the engagement, one transport was sunk, and two transports reached port safely. The first land engagement deserving the designation of battle, was before the walled city of Ping-Yang, on the Tatung river, on the road leading from Seoul to the frontier of Manchuria. The city was defended by 16,000 Chinese troops. The Japanese marched on the city in three columns, opened the attack by a cannonade on Sep. 16, made a simultaneous attack on the following morning, and within an hour were masters of the city. While the Japanese were marching on Ping-Yang, the Chinese authorities, fearing for the safety of the city, dispatched a number of transports with reinforcements from Taliens bay, near Port Arthur. The transports were sent up the Yalu river, while a convoying fleet of 10 vessels remained at anchor about 10 m. to the w. On the morning of Sep. 17, a powerful Japanese fleet approached the Chinese fleet and began attack at long range. Two Chinese cruisers ran away, another was speedily sunk, two others were set on fire by Japanese shell, and one Japanese vessel was seriously damaged. At nightfall, the fleets retired, the Japanese to the Tatung river, the Chinese to Port Arthur. The next notable event was the investiture and fall of the great Chinese stronghold—its Gibraltar—Port Arthur, on the promontory of the Regent's Sword. The Japanese army

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was said to number 15,000 officers and men, and the Chinese 13,000. There was a considerable Chinese fleet at the port, and the Japanese assembled a flotilla of torpedo-boats. During the investment and assault the fleets were not actively engaged. After two days of almost incessant fighting, the Japanese captured the main works (Nov. 21), seized 12 of the enemy's ships (the others slipping away to Wei-Hai-Wei), and secured an enormous quantity of guns, ammunition, and general stores. From Port Arthur, the Japanese proceeded to invest the other great naval strongholds on the gulf of Pe-Chi-Li, particularly Wei-Hai-Wei, which they attacked by sea and land 1895, Jan. 20. On Feb. 14 they received an offer from Admiral Ting, the chief Chinese authority at Wei-Hai-Wei, to surrender, and on the 17th took possession of the harbor, the main works, the forts on Liu-Kung Tao island, the torpedo stations, all the govt. buildings, and 10 war vessels. During the entire winter the Japanese carried on active and uniformly successful operations in Manchuria. On Mar. 21 they occupied Fisher island, one of the Pescadore group between Formosa and the mainland, and a few days afterward seized Panghu, the principal island.

As soon as western nations became convinced that the struggle between China and Japan was likely to prove a long and bitter one, and one also that would seriously disturb the commerce of the world, rumors of European intervention became rife. The U. S. govt., as the one least interested politically in the result, tendered its friendly offices to bring about a cessation of hostilities. The offer was at first declined, but subsequently, and with the consent of both powers, the U. S. ministers to China and Japan undertook negotiations for peace: Early in 1895, Mar., China appealed to the European powers and to the U. S. govt. for co-operation in peace negotiations. Later in the month she appointed the viceroy, Li Hung Chang, a plenipotentiary to negotiate for peace, invested him with absolute and binding authority, and engaged John W. Foster, ex-sec. of state of the U. S., to assist him in his task. The viceroy was received with honors befitting his rank and mission on his arrival at Simonoseki, where the negotiations were held. On Mar. 24, while proceeding from the conference hall to his hotel, the viceroy was shot in the face by a fanatic, the wound delaying the conference, but not proving serious to the victim. At the first conference Li Hung Chang asked for an armistice, which the Japanese plenipotentiaries were willing to grant on conditions that Li Hung Chang deemed too severe. After the attempted assassination of the viceroy, the Emperor of Japan, as an evidence of national horror for the act, ordered an armistice till Apr. 20 without conditions. A treaty of peace was signed by the plenipotentiaries on Apr. 16, on the following terms: (1) The independence of Korea; (2) Japan's retention of the conquered places; (3) Japan's retention of the territory e. of the Liao river; (4) Permanent cession of Formosa; (5) Indemnity of \$100,000,000; and (6) An of-

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fensive and defensive alliance between China and Japan. Ratifications of the treaty as originally drawn up were exchanged at Che-foo May 8, despite the protests of Russia, Germany, and France. Subsequently, Japan agreed to relinquish a permanent occupation of the Liao-Tong peninsula. In 1898 Russia secured the lease of Port Arthur and Talien-wan with their adjacent waters for the term of 25 yrs., which may be extended by mutual agreement. To the n. is a neutral zone where Chinese troops shall not be quartered without the consent of Russia. In the same year Great Britain obtained a lease of the islands and waters of Wei-hai-wei in Shan-tung province, on the same terms, and the cession of territories on the mainland opposite Hong-Kong, while France obtained a 99 years' lease of the bay of Kwang-chau-wan, opposite the island of Hainan. Meanwhile (1897) Germany obtained a 99 years' lease of the port of Kiau-chau in Shan-tung. The young emperor, Kuang Hsu, who had advocated reforms after European methods, was practically deposed in 1898 by the Empress Dowager. The already strong anti-foreign sentiment in the Empire reached a crisis in 1900. The Boxer uprising (see BOXERS) was accompanied by the massacre of missionaries, their children, and their converts, and by the murder of two members of the legations at Peking. These atrocities were openly sanctioned by Prince Tuan and other princes and ministers, and were connived at by the Empress. Finally, communication between Peking and the coast was cut off and the foreigners in that city were besieged in the legation grounds. Armed intervention by the powers followed, 50,000 troops being employed. Tien-tsin was taken by storm July 13-14, and Peking was relieved Aug. 14, the court having previously fled to the province of Shensi. Meanwhile the Russians had subdued the Boxers in Manchuria. Negotiations for peace were soon begun; on Dec. 4 the Powers made formal demands including the punishment of the leaders in the massacres, and payment of a heavy indemnity. On 1901, Jan. 14, a peace protocol was signed. Russia, which had established a virtual protectorate over the port of Niuchwang and the two s. provinces of Manchuria agreed, under certain conditions, to withdraw at the close of 1903. A report 1903, April 4, that a demand for the sovereignty of Manchuria and the exclusion of other nations from commercial privileges had been made on China, caused great anxiety in diplomatic circles, and led Russia to deny the charges.

CHINESE EXCLUSION ACT—CHINESE INK.

CHINESE EXCLUSION ACT: law of the United States, 1892, May 5, relative to immigrants from the Chinese empire; commonly called the ‘Geary bill.’ The act continues in force for 10 years all laws prohibiting and regulating Chinese immigration; requires in general the removal, ordinarily to China, of any Chinese not lawfully entitled to be in the United States; declares that any Chinese person arrested under the laws relative to this subject, shall be adjudged to be unlawfully in this country, unless he shall establish by affirmative proof his lawful right to be here; ordains that any Chinese person so convicted and adjudged under these laws, shall be imprisoned at hard labor not more than one year and then deported from this country; provides that on application for right of habeas corpus by any Chinese person seeking to enter the United States, to whom that privilege has been denied, no bail shall be allowed, and such application shall be determined promptly; requires all Chinese laborers entitled to remain here to apply, within one year from the passing of this act, to the U. S. collector of internal revenue for the district for a certificate of residence; and ordains that, after one year, any Chinese laborer found in this country shall be adjudged to be here unlawfully and shall be deported, unless he shall establish to the satisfaction of the court and by at least one credible white witness that by some unavoidable cause he has been prevented from procuring or now holding his certificate, and that he was a resident of the United States when this act was passed.

This law was met by a vigorous protest from the Chinese minister at Washington. It also encountered serious difficulties in its attempted execution. These appear in the first adjudication on it. In the U. S. circuit court at New Orleans, 1892, Dec. 9, Judge Edward C. Billings quashed indictments against several Chinese for violating the act; and in his decision declared that the act was of the nature not of criminal but of police or quarantine law. It does not declare the coming of a Chinese person a crime, but requires the U. S. officials to send him back as a person not desired. The judge therefore remanded the defendants to the custody of the U. S. commissioner to be dealt with according to law. The Chinese, aware that transportation to China could not be provided on so immense a scale, almost universally disregarded the law requiring them to procure certificates and to deposit photographs. Subsequently, the United States supreme court affirmed the constitutionality of the law. A new treaty between the United States and China, based on this law but with reciprocal modifications, and to last 10 years, was signed in Washington, 1894, Mar. 17, and ratified by the senate Aug. 13.

See IMMIGRATION.

CHINESE HEMP: see CORCHORUS.

CHINESE INK: see INDIAN INK.



A Chinese School when the Master has gone out (Peking). (From a Chinese Picture.)

CHINESE LANGUAGE.

CHINESE LANGUAGE, WRITING, AND LITERATURE: a monosyllabic language, with essentially hieroglyphic characters, and a comprehensive literature. The Chinese language belongs to those Asiatic languages commonly called monosyllabic, because each word is uttered by a single movement of the organs of speech, and expresses in itself a complete idea or thing. All Chinese words end either in a vowel, a diphthong (in which, however, each vowel sound is distinctly pronounced, making the word often to appear of more than one syllable) or a nasal. Of such simple words or roots there are about 450. But the emphasis or accent of many of these words may be varied by the speaker in four or five different ways, so as to produce a corresponding variety in their meaning, by which means the number of simple words or roots amounts to about 1,200. There is no distinction of parts of speech in the Chinese language, and no recognition of the principle of inflection, Chinese words being incapable of any modification of *form*. The relations of words are ascertained by their position in a sentence. Hence Chinese grammar is *solely* syntax. Thus *ta*, according to its position in a sentence, at one time serves the purpose of an adjective, meaning 'great;' at another, a substantive, meaning 'greatness;' and again of a verb, meaning 'to enlarge' and 'to be great,' or of the adverb 'very.' There are certain words, however, which have at length lapsed into so vague and general a signification, that in conversation and literature they are now used in some cases as particles to determine the relations of other words; but in the older literature this is very rare, and is against the genius of the language. From what has been said, it will readily be inferred that the gender, number, and case of words are not determined by the *form* of the words themselves. They are, in fact, denoted by the addition of other words. Thus, *people* in Chinese is *multitude man*, *son* is *man child*, *daughter* is *woman child*. *The best of men* is in Chinese *a hundred man good*. The purest Chinese is spoken at Nankin, but the same idiom, called 'the language of the mandarins,' is spoken by the educated in all parts of the empire. For a knowledge of Chinese grammar, see Schott's *Chinesische Sprachlehre* (Berlin, 1857); Summer's *Handbook of the Chinese Language* (1863); Julien, *Syntaxe Nouvelle de la Langue Chinoise* (Paris, 1870); Morrison's *Dictionary of the Chinese Language* (Shanghae, 1865).

In Chinese the written character generally does not indicate the sound of the word, but gives a kind of hieroglyphic or pictorial representation of the idea or thing to be expressed. Hence there are required as many of these characters or symbols as there are ideas to be represented. Since many words similar in sound are different in signification, while in writing each idea has its peculiar symbol, the number of words represented by writing—without reckoning those peculiar to certain dialects—is perhaps ten times greater than those distinguished by the ear. The number, in fact, is reckoned at 50,000, but these are far from being all in general use. In writing and printing,

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the characters are arranged in perpendicular columns, which follow one another from right to left.

In its origin, Chinese writing is hieroglyphic or picture-writing, with the addition of a limited number of symbolical and conventional signs; the larger number of Chinese characters are formed by the combination of such hieroglyphs and signs. But as one such character by itself seldom determines the sound, an additional word is conjoined for this purpose; so that the great mass of Chinese written words consist of an ideographic and a phonetic element. Native grammarians divide their characters into six classes. The first class comprises simple pictorial representations of sensible objects, such as sun, moon, mountain, etc., and containing 608 characters. The second class includes such characters as are formed by the combination of two or more simple hieroglyphs, which together convey, in a more or less intelligible manner, some other idea; for example, the hieroglyph for sun, combined with that for moon, conveys the idea of light; mouth and bird, that of song, etc.; of these there are 740. The third class embraces those characters which indicate certain relations of position, as above, below, the numerals, etc.; of these there are 107. The fourth class consists of characters which, by being inverted, acquire an opposite signification, as right, left, standing, lying, etc., and contains 372. The characters of the fifth class are termed derived characters; the meaning of the simple or compound characters used to express physical objects, is transferred to mental objects, or to other physical objects with which they are associated, e.g., the hieroglyph for a heart signifies the soul—that for a room, signifies the wife, etc.; of these there are 598. The characters of the sixth class include those which are composed, as above mentioned, of sign and sound. Almost all names of plants, fishes, birds, and many other objects which it would be difficult to represent hieroglyphically, are denoted by the compound characters of the sixth class, which amount to 21,810 in number. As this class, however, consists merely of repetitions of the other five classes, the immense number of Chinese characters may be reduced to 2,425; and whoever learns these may be said to know the forms of all.

The hieroglyphical characters in their oldest form were



Chinese Characters.

easily recognizable figures: thus, the hieroglyph for sun was as in the fig. at *a*; for moon, as at *b*; for light, a combination of sun and moon, as at *c*; for to listen, folding-doors and an ear, as at *d*; for white, a very squint eye, in which hardly anything but the white is seen, as at *e*; for friends, the two

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valves of a bivalve shell, as at *f*. In the course of time, through hasty and careless tracing, the objects denoted by the hieroglyphs have almost ceased to be recognisable. The modern hieroglyphs corresponding to the above are as represented at *a'*, *b'*, *c'*, etc. See Abel Rémusat's 'Mémoire sur l'Ecriture Chinoise,' in the *Mémoires de l'Académie des Inscriptions*, vol. viii.; and for a view of the Chinese characters, both ancient and modern, Hager's *Monument de Yü* (Par. 1802).

The Chinese literature, in a geographical, ethnographical, and historical point of view, is unquestionably the most comprehensive and important of Asia. The printed catalogue of the emperor Kien-long's library fills 122 vols.; and a selection of the Chinese classics, with commentaries and scholia, which was begun by order of the same emperor, is said to comprise 180,000 vols., of which, in 1818, had already appeared 78,731 vols. In the five canonical or classical books, called *King*, are contained the oldest monuments of Chinese poetry, history, philosophy, and jurisprudence, some portions of which belong, perhaps, to the most ancient writings of the human race. Confucius (q. v.), B.C., 6th c. collected them from various sources, and in this collection they have been faithfully handed down. Next to these in value are the *Sse-shu*, or the four books. These, as they were written by Confucius and his disciples, must be regarded as the most trustworthy source of insight into the intellectual and political life of a Chinese. A complete and elaborate edition of the five *King* and the four *Shoo* has been undertaken by the great English Sinologue, Dr. Legge, under the title of 'The Chinese Classics, with a translation, critical and exegetical notes, prolegomena, and copious indexes. In seven volumes; of which five vols. appeared 1861-78. A popular edition, under the title of 'The Chinese Classics translated into English,' has also been published; of which vols. I. and II. deal respectively with the 'Life and Teachings of Confucius' and the 'Works of Mencius.' Almost contemporary with Confucius lived Lao-tse (q.v.) born B.C. 604. He was the founder of a school of philosophy, more spiritual in its character than that of Confucius, but which has now degenerated into the lowest and most vulgar demonology; see *Le Livre de la Voie de la Vérité*, Chinese and French, by Julien (Par. 1842). In mythology, the Chinese have *The Book of the Mountains and Seas*, *The History of the Gods and Spirits*, and some others. In jurisprudence may be mentioned the universal collection of laws, and the criminal code of the present dynasty; see *Ta-Tsing-lu-li, being the Fundamental Laws and Supplementary Statutes of the Penal Code of China*, by Staunton (Lond. 1810). The Chinese literature is very rich also in works on medicine, natural history, astronomy, agriculture military science, music, and all branches of mechanics and industry; see *Résumé des principaux Traitéés Chinois, sur la Culture des Mûriers et l'Education des Vers-à-soie*, by Julien (Par. 1837). In philology, the most valuable works are the dictionaries, in which the Chinese characters have been collected and elucidated by examples from the whole treasury of Chinese literature; but

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the greatest of all works of this kind is the dictionary of the emperor Kang-hi, now regarded as the highest authority for the pronunciation and meaning of the characters. Of the encyclopedias of the Chinese the most conspicuous are that by Ma-tuan-lin (A.D. 1300), called *Wen-hien-thong-kao*—i.e., an accurate investigation of the ancient documents, with rich supplements; and the *Koo-kin-too-shoo-tsei-ching*, or *Complete Collection of Ancient and Modern Books*—of which latter vast work a copy was secured for the British Museum 1877. But the most valuable portions of the Chinese literature are, undoubtedly, their historical and geographical works, which are indispensable to a knowledge of upper Asia. Sse-ma-thsian (B.C. 100), compiled, from every recognized authority, a work called *Sse-ki*, or historical memorials, which embraces the history of China from B.C. 2637, to the commencement of the dynasty of Han B.C. 2d c. This work has been continued by the different dynasties, and forms a complete collection of the annals of the empire to the termination of the Ming dynasty A.D. 1643. It is known under the title of *Nian-eul-sse*, or the 22 histories. The entire collection of the official annals from B.C. 2698 to A.D. 1645, comprising a period of 4343 years, and consisting of 3,706 books, is in the library at Munich.

Amid all their scientific labors, the Chinese have not neglected the art of poetry, in which they possess voluminous collections that have yet to be made known to Europe. In lyrical poetry, the most distinguished names are Li-thai-pe and Tu su, both of whom lived at the beginning of the 8th c. after Christ: see Davis 'On the Poetry of the Chinese,' in the *Transactions of the Royal Asiatic Soc.*, vol. II. The romantic poetry of the Chinese, though void of poetic beauty, is valuable for the insight that it gives into their domestic life. Their dramatic poetry has laws peculiar to itself, and resembles partly the romantic drama of the Germans, and partly the *comedia delle arte* of the Italians. They have also a kind of novel in dialogues, which forms a subordinate species of drama. Besides the speaking persons or actors, there is what they call a singing person, who introduces into the piece songs which he sings to popular melodies, and appears to correspond in a rude way to the Greek chorus. The best collection of works in this species of literature is the *Yuen-dschin-petschong*, i.e., the hundred dramas from the Mongol dynasty (1260–1341), from which all the Chinese dramas known to Europeans have been taken. A Chinese novel affording a graphic view of Chinese tastes and opinions, was translated by Stanislas Julien, under the title of *Les Deux Jeunes Filles Lettrées*. English readers may obtain pictures of Chinese life from *Iu-kias-li*, or the Two Fair Cousins, translated from the French; and *The Flower Scroll*, translated by Bowring. There are French and English translations of a number of the more important Chinese works. See also Schott's *Chinesische Sprachlehre*, Davis's *Chinese Miscellanies*, and Wylie's *Notes on Chinese Literature*, Gabe's *Ch. Grammatik*, Marshman's *Elements of*

CHINESE SEA—CHINK.

Chinese Grammar, Legge's *Chinese Classics*, and Mason, *The Chinese, their Education, Philosophy, and Letters* (1881).

CHINESE SEA, or CHINA SEA: that portion of the Pacific Ocean which has China and Siam on the w., the island of Formosa on the n., the Philippines on the e., and Borneo on the s., and which forms the great gulfs of Tonquin and Siam.

CHINESE WHITE: the white oxide of zinc; recently introduced into the arts, under this name, as a pigment in place of the preparations of white-lead. It changes very little either by atmospheric action, or by mixture with other pigments; but it has not the body of white lead.

CHINGLEPUT (officially spelt CHENGALPAT): district in India named from its chief town. It stretches in n. lat. $12^{\circ} 14'$ to 14° , and in e. long. $79^{\circ} 35'$ to $80^{\circ} 25'$; 2,842 sq. m. With about 120 m. of coast, it has not a single harbor or anything like shelter from the surf. Nor is its internal navigation of any value. The only considerable river, the Palar, is in most parts destitute of water during the dry season. Excepting in Oct., Nov., and Dec., comparatively little rain falls. From that fact and perhaps also from an inferiority of soil, cultivation is said to be so much circumscribed, as to embrace only about 96,000 acres, or 1-20th part of the entire area. Pop. (1881) 981,381; (1891) 1,137,333.

CHINGLEPUT, *ching-glé-püt'*, or CHENGALPAT: fort, with a town adjacent; lat. $12^{\circ} 41'$ n., and long. $80^{\circ} 2'$ e.; 36 m. s.w. of Madras. It is accessible to an enemy only from the s., having a tank or artificial lake on the e. and part of the n., and rice-fields, irrigated from the same, on the remainder of the n. and on the w. In the dry season, the tank is nearly exhausted, the weeds and slime in its bed causing malaria. Notwithstanding this however, the place is considered to be more than ordinarily healthful. Pop. of town about 8,000.

CHINI, *che-né'*: village of the Punjab, about a mile from the right bank of the Sutlej, the most easterly of the five rivers which give name to the country; lat. $31^{\circ} 31'$ n., and long. $78^{\circ} 19'$ e.; 8,770 ft. above the sea. Notwithstanding this elevation, it is a delightful place of sojourn, and was a favorite residence of Lord Dalhousie. It occupies a slight depression on the s. slope of a lofty mountain, which fertilizes the soil with a net-work of never-failing rills. The neighborhood is remarkable for the size and flavor of its grapes, while the vines, trained over horizontal lattices, afford, while in foliage, an almost continuous shelter.

CHIN-INDIA, or FURTHER INDIA: see SIAM: BURMAH: COCHIN CHINA.

CHINK, n. *chingk* [AS. *cinan*, to gape; *cínu*, a chink: Dut. *keen*, a cleft]: a small rent, cleft, or opening lengthwise; a crack or gap, as in a wall: V. to crack. CHINKING, imp. CHINKED, pp. *chingkt.* CHINKY, a. *chingk'í*, full of chinks or long small gaps.

CHINK, v. *chingk* [an imitative word, of which *jingle* may be regarded as a frequentative: Dut. *klincken*, to clink

CHIN-KEANG-FOO—CHIO.

or sound sharp]: to make a small sharp sound with a piece of money or metal: N. a small sharp sound as by rattling money; a jingling sound; *familiarly*, money.

CHIN-KEANG-FOO, *ching-ke-áng'fó* ('River-Guard City'): Chinese city and port on the Yang-tze-kiang, at the junction of the grand canal with that river, and about 150 m. from its mouth; opened to European commerce by the treaty of Tien-tsin (1858). A British settlement was begun 1864; but trade is very slowly developing, and there is reason to doubt if C. will ever become a place of importance. The anchorage is bad, the port is not a natural outlet for any staple of exportation produced in the neighboring country, and it possesses no advantage as regards the introduction of foreign goods. Formerly, however, as the southern key of the grand canal, it was both an important stronghold and a centre of traffic. The injury which the grand canal has sustained has for the present practically extinguished the inland trade, and the four years (1853-57) during which it was in the barbarous hands of the Tae-pings. C. was opened to foreign commerce in 1861. Pop. est. 145,000.

CHINNOR: musical instrument of the ancient Hebrews, with 32 strings.

CHINON, *shé-nōng'*: town of France, dept. of Indre-et-Loire, beautifully situated on the Vienne, 25 m. s.w. of Tours. It has the remains of a huge old castle, formerly the occasional residence of the Plantagenet kings of England also of some of the French sovereigns, and noted as the place where Joan of Arc commenced her historical career, and as the birthplace of Rabelais. C. has manufactures of druggets, serges, earthenware, etc. Pop. (1891) 6,119.

CHINOOKS, *che-nóks'*: nearly extinct tribe of American Indians, former inhabitants of the country around the Columbia river, Oregon.

CHIN'QUAPIN: see CHESTNUT and OAK.

CHINSE, v. *chins*: to push oakum or tow into the chinks or seams between a ship's planking. CHIN'SING, imp. CHINSED, pp. *chinst*.

CHINSURA, *chin-sō'rā*: town on the right bank of the Hooghly, about 20 m. above Calcutta; lat. $22^{\circ} 53'$ n., long. $88^{\circ} 23'$ e. It contains the Hooghly College, and is considered one of the most healthful places in Bengal. It was originally a Dutch settlement, but was ceded 1824 to the British, with some other places on the mainland, in exchange for the English possessions in the island of Sumatra. Pop., with Hooghly, abt. 35,000.

CHINTZ, or CHINTS, n. *chints* [Hind. *chhit*, spotted cotton cloth]: highly glazed printed calico, or cotton cloth, with a pattern in more than two colors on a white or light-colored ground. It is used chiefly for bed-hangings, for covering furniture, and other purposes where gay colors are desired, and where there is much exposure to dust, which does not adhere to its highly calendered surface.

CHI'O: see SCIO.

CHIOCOCCA—CHIPMAN.

CHIOCOCCA, *kī-ō-kōk'ka*: genus of tropical and subtropical plants, of the nat. ord. *Cinchonaceæ*, of which two species in particular, *C. anguifuga* and *C. Densifolia*, the former a trailing herb, the latter a bushy shrub, have high reputation in their native country, Brazil, as cures for snake-bites. An infusion of the bark of the root is certainly one of the most violent emetic, and drastic medicines known, its action being accompanied with spasmodic agitations of the whole frame and other symptoms, such as to preclude its use except in the most extreme cases. Yet it had at one time high repute in Europe, and was administered in small doses as a diuretic and purgative.

CHIOGGIA, *kē ūj'ā*, or CHIOZZA, *kē-ōts'ā*: important commercial town and seaport of n. Italy, province of Venice; on an island of the same name in the Adriatic, connected with the mainland by a stone bridge of 43 arches. The inhabitants are engaged chiefly in the coasting-trade, in lace-making, and in ship-building. Pop. (1891) 26,336.

CHION'IS, and CHION'IDÆ: see SHEATH-BILL.

CHIOPPINE, n. *chōp-pīn'* [Sp. *chapín*]: in *OE.*, 'the high shoe formerly worn by women: see CHOPINE.

CHIP, n. *chip* [softened from *chop*: Sp. *chapa*, a thin metal plate: Swiss, *kide*, a twig: W. *cedys*, fagots of small wood: Ger. *kippen*, to clip or pare]: a small piece of a body cut or broken off; a fragment; material used in making bonnets and hats: V. to cut into small pieces; to cut or break off small pieces; to hew. CHIP'PING, imp.: N. a piece cut or broken off. CHIPPED, pp. *chipt*. CHIP HATS: see BRAZILIAN GRASS. CHIP OF THE OLD BLOCK, one having the character, dispositions, and manners of a predecessor or parent. BROTHER CHIP, any one of the same trade, business, or profession—but properly a brother carpenter. Note.—CHIP is connected with *chop* and *chap*.

CHIPMAN, *chōp'man*, NATHANIEL, LL.D.: 1752, Nov. 15—1843, Feb. 15: b. Salisbury, Conn.: jurist. He graduated at Yale 1777, served as a lieut. at Valley Forge, Monmouth, and White Plains; resigned 1778, Oct. 10, and after rapid legal studies at Litchfield, Conn., was admitted to the bar 1779, Mar. Settling at Tinmouth, Vt., whither his father had removed 1775, he became a member of the legislature 1784–5, judge of the state supreme court 1786, chief justice 1789, and again 1796 and 1813–15. He was a commissioner to adjust difficulties with N. Y. 1789, and to negotiate for the admission of Vt. into the Union 1791, as well as a member of the convention which determined on that step. United States district judge for Vt. 1791–93; working member of a committee to revise the Vt. statutes 1796–7, and again 1826; United States senator 1797–1803; prof. of law at Middlebury College from 1816, succeeding his brother Daniel C. (1785–1850), who wrote his life (Boston 1846). He published *Reports and Dissertations*, and *Sketches of the Principles of Government* (1793; enlarged 1833). He died at Tinmouth, Vermont.

CHIPMUNK—CHIQUICHIQUI PALM.

CHIPMUNK, or CHIPPING SQUIRREL: see SQUIRREL: GROUND SQUIRREL.

CHIPPENHAM, *chip'nūm*: municipal borough in Wiltshire, England, on the left bank of the upper part of the Bristol Avon, on the Great Western railway, 22 m. e. of Bristol. It consists chiefly of a well-built street above half a mile long. A bridge of 21 arches crosses the Avon here. C. is famed for its markets of cheese and corn, its cheese-market being one of the largest in Britain. There are silk and woolen manufactures; and some mineral springs in the vicinity. C. was the seat of the Saxon kings of Wessex. About 880, the Danes took it from Alfred, and kept it two years. Pop. (1881) 1,352; (1891) 4,618.

CHIPPEWA, *chip'pē-wā*, BATTLE OF: 1814, July 5; in Welland co., Ontario, Canada, at the junction of Chippewa creek with the Niagara river 2 m. above the falls. The Americans had crossed July 3 and taken Fort Erie. Gen. Scott with 1,900 men advanced next day, found 2,100 British under Gen. Riall posted behind Chippewa bridge, and took a good position. After skirmishing from daylight July 5 till 4 P.M., Gen. R. B. Porter was sent forward with the volunteers, routed a small party, and was driven back in disorder. Scott then charged and drove the enemy to their intrenchments beyond the creek, before Gen. Ripley could come to his aid. Gen. Brown directed the U. S. army, but was not engaged. The American loss was 68 killed and 267 wounded, the British 138 killed and 365 wounded.

CHIPPEWA FALLS: town and cap. of Chippewa co., Wis.; on the Chippewa river and the Wisconsin Central and other railroads; 12 m. n.e. of Eau Claire. It contains the County Insane Asylum and the State Home for the Feeble-Minded, and important manufactures, electric lights, street railways, etc., and an assessed property valuation of \$2,000,000. Pop. (1900) 8,094.

CHIPPING-BIRD, *chip'ping* (*Spizella socialis*): bird otherwise called Chipping Sparrow. It is five or six in. long, whitish underneath, back and sides ash color, variegated with white and black, and crown chestnut. It has six or seven notes, which it repeats rapidly. It is common in most parts of the United States.

CHIQUICHIQUI PALM, *che-kē-chē'kē* (*Leopoldinia Piassaba*): the PIASSABA of the n. of Brazil, and one of the palms which yield the Piassaba (q.v.) fibre, now much used for making brushes. The Piassaba fibre exported from Pará is obtained from this tree. It grows in swampy or occasionally flooded lands on the banks of the Rio Negro and other rivers of Venezuela and the n. of Brazil; and has a crown of very large, regularly pinnate leaves, with smooth, slender stalks. The leaves, like those of many other palms, are much used for thatching. The commercial fibre is obtained from a remarkable covering of the stem; formed of marginal processes of the leaf-stalks, elongated into ribbon-like strips, and interlaced, finally splitting into fine fibres, hanging down five or six ft, and entirely concealing the stem, so as to give the tree a very extraordinary appear-

CHIQUIMULA--CHIRETTA.

anee. It twists readily into cordage, and the fibre has been long used for cables of canoes on the Amazon and other rivers. Before the independence of Brazil, the Portuguese government had a factory on the Rio Negro, for the manufacture of cables of this fibre. The export of the manufactured fibre from Pará to England began about the middle of the present century.

CHIQUIMULA, *chē kē-mō'lā*: eastern dept. of Guatemala bounded n. by the Bay of Honduras and the Caribbean Sea, and e. and s. by Honduras; area, 4,000 sq. m.; pop., 80,000. It contains the only Guatemalan ports, Izabal, on the Gulf of Dulce, which has a shallow harbor, and San Tomas de Castillo at the mouth of the river Motagua. Here a Belgian colony was founded 1844, but did not succeed. The cap., C. de la Sierra, 75 m. n.e. of Guatemala, has a good trade. Pop. 6,000.

CHIQUIMULA, *che-kē-mō'lā*, Isthmus of: in Central America, s. e. of the peninsula of Yucatan; long. 89° w. Its breadth from the Caribbean Sea to the Pacific is about 150 m.—the greatest elevation not exceeding 2,000 feet.

CHIQUITOS, *chē-kē'tos*: Indian tribe of central S. America, w. of the Paraguay river in the prov. of C., Bolivia. They were numerous and powerful, of superior character and some attainments. The Portuguese Alexis Garcia visited them 1525, and, attempting to cross the continent from the e. coast, was killed at the Andes. Juan de Ayolas, 1537, and others who sought to subdue them, fared no better. The Jesuits founded a mission among them 1691, and followed with at least eight others; under their teaching the C. so improved that their churches were equal to any in the new world, and their towns, products, and manufactures superior to those of the whites. They were employed as teachers of neighboring tribes, till their language displaced all the 12 others in the province. As in N. America, the missions attained high prosperity, and the suppression of them was disastrous in its results. The Jesuits were expelled 1767, and the C., deprived of the leadership to which they had long trusted and submitted, relapsed into barbarism; the churches fell into decay, the villages were depopulated. By 1801 their numbers were reduced two-thirds, and but 25,000 remain.

CHIRAGRA, n. *kī-rā'grā* [L. *chirāgra*—from Gr. *cheir*, the hand; *agra*, a catching]: gout in the hand. **CHIR-AGRAL**, a. *kīr-ā'grī-kāl*, having gout in the hand, or subject to it.

CHIRETTA, n. *kīr-et-tā*, also **CHIRATA**, or **CHIREETA** [a corruption of the systematic name *chirayta*—from Skr. *chirā etī*], (*Agathotes Chirayta*, known also as *Ophelia Chirata*): officinal plant belonging to the nat. ord. *Gentianee*, and possessing properties similar to those of the common gentian, the centaury, and other plants of that order. It is a native of the mountains of the n. of India. The whole plant is intensely bitter, and has been long used in its native country as a tonic and stomachic. It is also in high estimation with European practitioners in India as a febrifuge,

CHIRIQUI—CHIROMANCY.

and is often used by them as a substitute for cinchona. The medicinal virtues are both in the herb and in the root. The whole plant is pulled up at the time when the flowers begin to fade, and is dried for use. It is now exported to some extent.

CHIRIQUI, *chē-rē-kē'*: river in Central America, near the boundary of Panama and Costa Rica, flowing toward the n. and emptying into the lagoon of the same name—lat. and long. of its mouth being about 9° n., and 82° 30' east.

CHIRIQUI: spacious lagoon in Central America, on the n. coast; with three entrances, and with depth of water for the largest ships. It measures 90 m. along the coast, and 40 or 50 in width.

CHIRIQUI: archipelago between the lagoon of C. in Central America, and the Caribbean Sea.

CHIRIQUI: province on the isthmus and in the state of Panama, Colombia; area 500 sq. m.; pop. 18,000.

CHIRK, v. *cherk*: *OE.* for CHIRP.

CHIROGRAPH, n. *kī'rō-grāf* [Gr. *cheir*, a hand; and *grapho*, I write]: in *law*, an indenture made in evidence of title to land, etc. When these were less prolix than now, the part and counterpart were written on the same sheet of parchment, separated by a longitudinal vacant space. In that space was then written a word, or even the whole alphabet, and then a wavy line was cut through it from top to bottom, so as to put part of the word or alphabet, on the copy of the deed handed to the one party and the rest on that given to the other. The word *chirographum* being most commonly introduced to be cut across, the term *chirographa*, hand-writings, was applied to them. It answered to what we now call a *charter-party* (q.v.); a fine indented on the same principle was called a C. also.

CHIROGRAPHY, n. *kī-rōg'rā-fī* [Gr. *cheir*, the hand; *graphē*, a writing]: the art of writing. CHIROGRAPH'IC, a. -*rō-grāf'ik*, pertaining to. CHIROGRAPHER, n. -*rōg'rā-fēr*, or CHIROGRAPHIST, n. -*fīst*, one who.

CHIROLOGY, n. *kī-rōl'ō-jī* [Gr. *cheir*, the hand; *logos*, discourse]: art of talking with the hands. CHIROL'OGIST, n. -*jīst*, one who.

CHIROMANCY, n. *kī'rō-mān'sī* [Gr. *cheir*, the hand; *mantei'a*, divination]: art of foretelling events or the dispositions of persons by inspecting the lines of the hands. CHIROMAN'TIC, a. -*tīk*, pertaining to. CHIROMAN'CIER, n. -*ser*, one who; also CHIROMAN'TIST, n. -*tīst*.—Chiromancy or *Palmistry*, as recently practiced for a curious diversion, is a form of divination that professes to read the future of an individual by tracing his disposition and natural tendencies as shown in the lineaments of the hand. In the middle ages, C. occupied the attention of Cardan, Paracelsus, and other eminent men, who elaborated it into a system. It is now, however, almost the exclusive property of the gypsies, who still find among maid-servants sufficient credulity to make its practice profitable.

The left hand is examined in its lines, projections, joints,

CHIRON—CHIRRA POONJEE.

nails, and contour of thumb and fingers. Most important is the *line of life*, curving from the upper joint of the forefinger round the ball of the thumb to the wrist joint; this, when regular and deeply colored, indicates a long and happy life, or various qualities and fates according to its varied markings, furrowings, and crossings. The *line of health* runs across the middle of the hand, that of *fortune* from the forefinger to the little finger: much depends on having these distinct and unbroken. Not every one is favored with the *line of the joint* or of the triangle, which, when clear, promises success after much difficulty. Elevations or projections at the base of the thumb, fore, middle, ring, and little fingers are known as the *mountains* respectively of *Venus*, *Jupiter*, *Saturn*, *the Sun*, and *Mercury*: they denote in turn a happy temper, a virtuous disposition, simplicity and love of labor, eloquence and vivacity, and firmness or modesty according to sex. *Mars* also has a *mountain* of courage, and the *moon* one of melancholy. From the latter, on the wrist joint, the *milky way* runs toward the little finger, and where strongly marked portends success in studies, arts, or foreign travel and adventure. White spots under the nails betoken fulfilment of desires, and lines near the little finger domestic bliss. Aristotle considered C. a science, Augustus practiced it, and the early and mediæval church allowed it.

CHIRON, or CHEIRON, *kī'ron*: most famous of the Centaurs (q.v.). In the ancient works of art, C. of course appears as half-man, half-animal; but his features, instead of expressing mere savage and sensual strength, as those of the Centaurs generally do, are marked by a mild wisdom, in harmony with the character and deep knowledge attributed to him by the Greek mythologists. He was the wisest and justest of the Centaurs, skilled in medicine and music.

CHIRONECTES: see CHEIRONECTES.

CHIRONOMY, n. *kī-ron'o-mī* [Gr. *cheironomia*—from *cheir*, the hand; *nomos*, a rule, regulation]: gesticulation by the use of the hands; directions given by movements of the hand, especially to a chorus. In the early church of the West such a system was a vogue; and some maintain that the signs of sounds, as then written, were merely pictorial representations of the movement of the hand.

CHIROPLAST, n. *kī'rō-plāst* [Gr. *cheir*, the hand; *plassein*, to shape]: in music, an instrument to teach fingering.

CHIROPODIST, n. *kī-rōpō-dīst* [Gr. *cheir*, the hand; *poda*, the foot: comp. Gr. *keiro*, I clip or pare]: a corn or wart doctor.

CHIRRA POONJEE, *chēr-rā pōn'jē*: town in the n.e. of India; lat. $25^{\circ} 14'$ n., long. $91^{\circ} 45'$ e. It stands on the Cossya Hills, 4,200 ft. above the sea—and has a temperature during the hot months 20° F. lower than that of the plains of Bengal. Notwithstanding this, however, the place has proved unsuccessful as a sanatorium. The vicinity abounds

CHIRP—CHISLEU.

in mines of coal and iron, which may be profitably worked.

CHIRP, n. *chérp* [an imitative word: Dut. *kirren*, to coo: Sp. *chirriar*, to chirp: Norw. *charer*, to chatter]: a particular sound uttered by birds, or certain insects: V. to make a noise, as the cry of small birds; to be cheerful; to make cheerful. CHIRP'ING, imp.: N. the gentle noise of birds. CHIRPED, pp. *ché rpt*. CHIRP'ER, n. one who chirps; one who is cheerful. CHIRP'INGLY, ad. -*lī*. CHIRRUP, or CHERUP, n. *chèr'üp*, chirp; the sounds of love-making.

CHIRU, *kér'ó* (*Antilope Hodgsoni*): species of antelope, inhabiting the pine-forests and elevated open plains of Tibet, in regions bordering on perpetual snow. It is much larger than the chamois, being about five ft. in length, and the height at the shoulder about three ft. The C. lives in great herds, and seems to exceed almost all the other gregarious ruminants in watchfulness against the approach of danger. Sentinels are constantly posted, to prevent surprise.

CHIRURGEON, n. *kí-rér'jün* [F. *chirurgien*—from Gr. *cheirour'gos*, a surgeon—from *cheir*, the hand; *ergon*, work]: in *OE.*, the spelling of surgeon—and so of other derived words.

CHISEL, n. *chíz'él* [F. *ciselier*, to emboss, to engrave: Port. *sizel*, a chisel: OF. *cisel*; It. *cesello*, a chisel: mid. L. *cisel-lus*, forceps; *sciselum*, a chisel]: a cutting instrument or tool of iron or steel, used by masons, joiners, and sculptors: V. to cut; to pare; to carve or engrave with a chisel. CHIS'ELLING, imp. CHIS'ELLED, pp. -*éld*. CHIS'ELLER, n. one who.

CHISELHURST, *chíz'él-húrst*: parish of Kent, England, 11 m. s.e. of London. It contains Camden Place, belonging to Earl Camden. Here Napoleon III. came to live, 1871, after his downfall and release from captivity; he died here, 1873, Jan. 9. C. is still the home of his widow, the empress Eugénie.

CHISHOLM, *chíz'om*, CAROLINE (JONES): 1810-77, Mar. 25; b. Wootton, Northamptonshire: English philanthropist. She married, 1830, Capt. C. of the Indian army, and went with him to Madras, where she founded a school for the orphans of British soldiers, and to Australia 1838. Pitying the poor girls who came to Sydney in emigrant ships, she started an asylum and training school, and, extending her benevolent enterprise, found employment, 1841-45, for 11,000 men and women, besides lending them small sums which were returned in almost every case. Returning to England 1846, she established the Family Colonization Soc., and in many ways helped emigrants. She was again in Australia 1854-66. She published *Information of the People of New South Wales* (abt. 1840), and *True Stories of Arctic Adventure and Discovery* (1874).

CHISLEU, n. *kís'ló* [Heb. *chisleu*]: the ninth month of the Jewish year, beginning with the new moon of our December.

CHISLEY—CHITON.

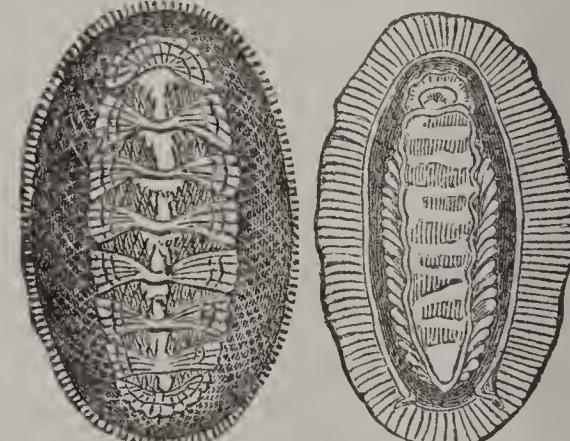
CHISLEY, a. *shiz'lē*: containing, or of the nature of, gravel; gravelly.

CHISWICK, *chiz'ik*: village in the centre of Middlesex, $7\frac{1}{2}$ m. s.w. of St. Paul's, London, on the left bank of the Thames. Around C. are many fine villas, extensive market-gardens, to supply London, and the gardens of the London Horticultural Soc. Pop. (1881) 15,975.

CHIT, n. *chit* [Swiss, *kide*, a twig: prov. Eng. *chits*, the first sprouts of anything: It. *citto*, a little dirty boy]: a shoot or sprout; a lively child; a baby. **CHITTY**, a. *chit'ti*, childish; like a babe. **CHIT-CHAT**, n. -*chät*, prattle; familiar talk.

CHITINE, n. *ki'tin* [Gr. *chiton*, a coat; a tunic]: the hard substance of the covering (the external skeleton) of all insects and crustacea: nearly allied to horn. In insects it constitutes not merely the external skeleton, the scales, etc., but also forms their tracheæ, and thus penetrates into the most remote portions of their organs; indeed, one of the layers of their intestinal canal consists of chitine. Hence, good preparations of these parts can be made by treating insects with a solution of potash, which dissolves all but the C.; in this way the most delicate parts, as, for instance, the valves of the tracheal opening, can be brought under microscopic examination. In a state of purity, C. is a white amorphous body, which usually retains the form of the tissue from which it is prepared. It has been analysed by C. Schmidt, Lehmann, and other chemists. Schmidt considers that its composition is represented by the formula $C_{17}H_{14}NO_{11}$. The best method of obtaining C. is by boiling the elytra of the cockchafer with water, alcohol, ether, acetic acid, and alkalies. The substance left after these respective boilings is pure chitine. It seems to be identical with the substance termed by Lassaigne *Entomaderm*. **CHITINOUS**, a. -*üs*, consisting of or having the nature of chitine. **CHITON**, n. -*tōn*, a mollusk with a many-jointed shell, covering its back—also found fossil. **CHITONEL'LUS**, n. -*ellüs* [dim of CHITON]: a sub-generic form of chiton, distinguished by the form of the plates.

CHITON, *ki'ton* [see under CHITINE]: Linnæan genus of



A
Chiton Squamosus:
B

A, animal and shell seen from above; **B**, animal seen from below. **mollusks**. Linnæus, regarding merely the shell, placed

CHITTAGONG—CHITTELDROOG.

them in the class of multivalves, a class entirely artificial. They are now regarded as constituting a family (*Chitonidæ*) of gasteropodous mollusks, of the order *Cyclobranchiata* of Cuvier, and as occupying a place in systematic arrangement close to limpets. The shell is composed of eight narrow, transverse, calcareous pieces, overlapping each other in a row along the back, and strongly attached to the mantle, which is remarkably fleshy and fibrous. They have the power of rolling themselves up into a ball. The organ of locomotion is an oval foot, more or less wide, according to the species, and extending the whole length of the animal. More than 200 species are known; they occur in all climates, most abundantly on rocks at low-water, but some of them at great depths. Some of them creep along the sand. All the British species are small; but some others grow to three or four inches in length. The fry of these mollusks swim about by means of long vibratile cilia.

CHITTAGONG, *chit-ta-göng'* (properly CHATTAGRÁM): maritime dist. in lower Bengal, taking its name from its cap. It is bounded on the s. by Arracan, on the w. by the Bay of Bengal, and extends lat. $20^{\circ} 45'$ to $23^{\circ} 25'$ n., and from long. $91^{\circ} 32'$ to 93° e.; 2,567 sq. m. Pop. about 1,150,000.

CHITTAGONG is the name also of a division; 12,118 sq. m. In its forests large numbers of elephants are annually caught. Pop. of div. 4,190,081.

CHITTAGONG, *chit-ta-göng'*, or ISLAMABAD, *ēs-lâ-mâbâd'* (second name having been conferred by Aurungzebe, who captured it toward the close of the 17th c.): city of India; on the Kurrumfuli, about 7 m. from its mouth; lat. $22^{\circ} 20'$ n., and long. $91^{\circ} 54'$ e. It came into the possession of the British, with Bengal proper, 1760–65. But having originally formed part of Arracan, it was claimed, after a lapse of 60 years, by the Burmese emperor as a dependency of that territory—a claim which formed one of the grounds of the war of 1824. Through the results of that contest, C. diminished in importance, but some European merchants began to settle there 1864, and its prosperity is returning. In 1873 it exported 104,565 tons of rice. Its ship-building business is now eagerly transferred to Moulmein, in Tenasserim. Pop. (1891) 24,069.

CHIT'TAGONG WOOD: wood of *Chickrassia tabularis*, tree of the nat. ord. *Cedreluceæ*, native of the mountainous countries e. of Bengal. In parts of India, it is called *Cedar* or *Bastard Cedar*, names given also to other kinds of wood. C. W. is much valued in India, and is used for all purposes for which mahogany is used in Britain. It makes beautiful and light furniture, but is apt to warp in very dry weather. Beautifully veined and mottled pieces, occasionally met with, are highly valued.

CHITTEE, n. *chit ē'*, rather CHITTHI, contr. CHIT, n. *chit* [Hind.]: in India, a short note, as between neighbors; a servant's written character.

CHITTELDROOG, *chit-têl drôg'*, or CHITRADURG, *chit-*

CHITTENDEN—CHITTY.

ra-dōrg' (*Sitala durga*, the spotted castle): town of British India, province of Mysore, 280 m. w.n.w. of Madras, 125 m. n. of Seringapatam; lat. $14^{\circ} 14'$ n., long. $76^{\circ} 27'$ e. It is in a fertile plain, but notable only for a strong fortress built on a high rock, which was besieged 1776 by Hyder Ali and defended by a fanatical tribe, the Beders, who obtained 200 human heads in their sallies, and sacrificed them to their goddess. The place was betrayed 1779. It is now occupied by a British garrison. Near C. are curious caverns, supposed to have sheltered devotees of Siva.

CHITTENDEN, *chit'ten-dēn*, THOMAS; 1730, Jan 6—1797, Aug. 24; b. East Guilford, Conn.: first gov. of Vermont. He removed, 1750, to Salisbury, Ct., which he long represented in the legislature; and, 1774, May, to Vt., settling at Williston, on Onion river. He was a member of the conventions of 1777 which declared Vt. a state and framed its constitution; pres. of the council of safety, and gov. from 1778 to his death, except one year. His earlier administration met and surmounted peculiar difficulties, owing to the claims of N. Y., the temptations held out by England, and the position of Vt. outside of the union of the states. He died at Williston. A memoir of him by D. Chipman appeared 1849.

CHITTERLINGS, n. plu. *chit'ter-lings* [prov. Eng. *chitter*, to twitter, then to shiver]: in *OE.*, a sort of frilling on the breast of a shirt; the small entrails of swine, from their wrinkled appearance.

CHITTOR, *chit-tōr'*: fortified town in India, dist. of Arcot, about 80 m. w. of Madras; lat. $13^{\circ} 12'$ n., and long. $79^{\circ} 9'$ e. It stands on the s. or right bank of the Puni, an affluent of the Palar, and is about 1,100 ft. above the sea. Its river varies, according to the season; from a small rivulet to an expanse of 400 yards in width. When the stream is at its lowest, the very tanks, as well as the deserted channel, become little better than slime—the result being fever, ague, dysentery, and other diseases. The thermometer has occasionally reached 140° in the sun; but the annual range in the shade runs from 56° to 100° .

CHITTOR: fortified town in Odeypoor, or Mewar, India; about 270 m. s.w. of Agra; lat. $24^{\circ} 52' n.$, and long. $74^{\circ} 41' e.$ The fortress occupies the summit of an isolated rock of nearly 6,000 yards in length, and 1,200 in breadth, which is scarped all round to a depth of 80 or 100 ft., about a fourth part of its entire altitude. Within the inclosure are several antique structures—such as temples, tanks, a palace, commemorative pillars, and an inner citadel.

CHITTY, *chit'i*, JOSEPH: 1776–1841; writer on law. Educated first for medicine, he was called to the bar by the Middle Temple in London 1816, won note as a pleader, and fame and usefulness by legal text-books of the highest rank. Among his many publications perhaps the most important are *Pleadings and Parties to Actions* (2 vols., 1808); *Law of Nations* (1812); *On the Criminal Law* (4 vols., 1816); *Laws of Commerce and Manufactures* (4 vols., 1825);

CHITTY—CHIUSI.

Medical Jurisprudence (1834); *General Practice of the Law* (4 vols., 1836–40); and his edition of Blackstone. ‘Chitty on Pleading’ was long almost as famous as Blackstone himself.

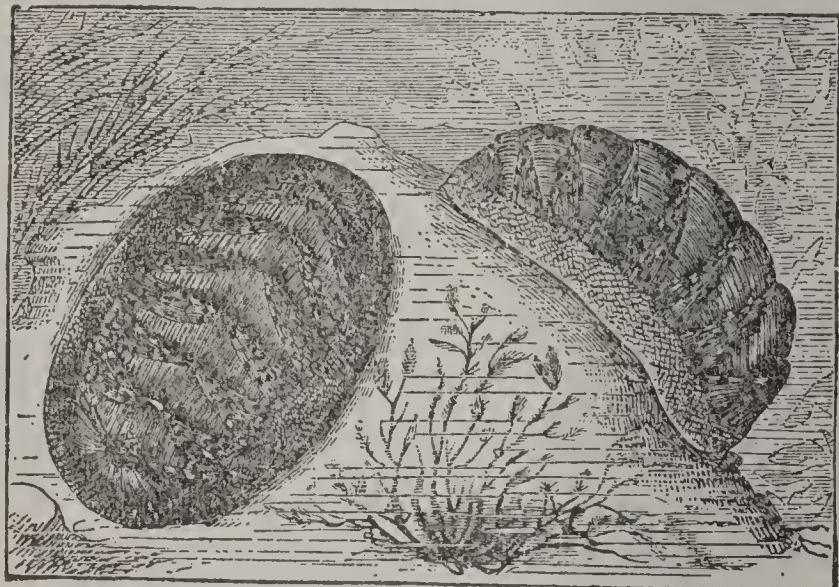
CHITTY, THOMAS: 1802–1878, Feb. 13; son of Joseph C. He studied law with his father, and became a special pleader when only 17 years old. Though never called to the bar he attained great eminence in his line, and was the editor of *C.’s Practice* and of Burns’s *Justice of the Peace*, beside being the author of many works on legal topics.

CHIUSA, LA, lá kē-ō’sá (so called from the ground having been originally *inclosed* as pasture-land for horses): town of Sicily, prov. of Palermo, 30 m. s.s.w. of the city of Palermo, on the slope of some hills. The town was built 1320. Agates are found in the vicinity. Pop. 7,000.—A smaller town of the same name is in n. Italy.

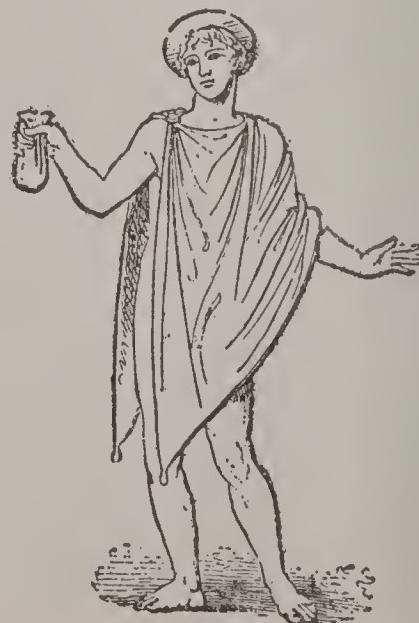
CHIUSI, kē-ō’sē: town of central Italy, prov. of Siena, 37 m. s.e. of Siena; on an eminence in the Val di Chiana, not far from the lake of the same name. In ancient times, under the name of *Clausium*, it was one of the 12 republics of Etruria, and the residence of Porsena (q.v.). When Italy was overrun by the barbarians, C. fell into decay, the whole valley was depopulated, and became the pestilential pool described by Dante. Since the improvement of the course of the Chiana (q.v.) C., with the whole district, has begun to flourish again. But it is in connection with the discovery of Etruscan antiquities that C. is chiefly noted. Within the last quarter of a century, immense quantities of these remains have been found in the neighborhood in the grottos that served the ancient Etruscans as tombs. There are three museums in C. filled with them, and a great number are in the public gallery at Florence. They consist chiefly of sun-dried earthenware vases, black, and partially covered with mythological figures. Excavations still continue, but discoveries have become rarer of late years.



Chipmunk (*Tamias striatus*).



Chiton elegans.



CHIVALRY.

CHIVALRY, n. *sālv'īl-rī*, or *chiv'-* [F. *chevalerie*—from *cheval*, a horse—from mid. L. *caballāriūs*, a swift horseman—from L. *caballus*, a horse (see CAVALRY)]: the system of knighthood; valor; the body or order of knights; the exploits or enterprises of knights. CHIV'ALRIC, a. *-rīk*, partaking of the character of chivalry or knighthood. CHIV'ALROUS, a. *-rūs*, warlike; bold; gallant. CHIV'ALROUSLY, ad. *-lī*.

CHIV'ALRY: the system of knighthood together with the privileges, duties, and manners of knights. The social arrangement to which this term is applied seems first to have assumed the character of a positive institution during the 11th c.; but so far from being an invention of that period, it had its roots in the manners of the Germanic races, among whom it ultimately arose at the earliest period at which they are historically traceable. In the description which Tacitus has given us of the manners of the Germans we find the most unequivocal indications of the existence, not only of the general spirit, but, in a partially developed form, of many of the special arrangements of chivalry. But it was in connection with feudalism that C. attained its full proportions, and in many respects it must be regarded as the complement of that institution: see FEUDAL SYSTEM. While feudalism exhibits the political, in C. we see the moral and social side of the arrangements of medieval life. It was in the feudal mansions of the barons that the system was developed; and to the lay portion of the youth of the higher classes, the instruction which they there received in the usages of C. formed far the most important part of education. In addition to the martial accomplishments, which corresponded to those of a modern cavalry-officer, they were instructed in the political relations which subsisted between the vassal and his lord, by which the whole body of society was then bound together; and in what might almost be called a system of ethics, exhibiting strange but unmistakable traces of the stoic philosophy. The analogy between the severer virtues recommended to the special cultivation of their disciples by the followers of Zeno, and those inculcated on the novice in C., and practiced by the knights of the middle ages, might be ascribed to other than historical causes, were it not that we are able to trace the connection between them with an approach to certainty. If any one wishes to convince himself on this point let him compare the last production of the intellectual life of antiquity with one of the earliest and most important of our own literature, the *Consolations of Philosophy* of Boethius with Chaucer's *Testament of Love*. The resemblance is so close that the latter work has, not without reason, been regarded as an imitation of the former; but the main features which distinguish them, and mark Chaucer's work as belonging to the modern world, are more instructive than even their similarity. The place which Philosophy, the celestial consoler, occupies in the work of Boethius, in that of Chaucer is supplied by a personalized *Love*—a being whom we must in nowise confound either with the heathen goddess, or, as some have done, with the divine love of the Christian religion. She is neither more

CHIVALRY.

nor less than the embodiment of an abstract idea which formed the central point of the whole system of C.; and her substitution for the Philosophy or Reason of Boethius is very characteristic of a state of society in which the affections and passions, rather than the intelligence, were the motive principles. The 'Love' of Chaucer is a complete generalization, altogether independent of individual object, and the consolation which she proffers to her votary is that of enlisting in his favor the special guardian, the 'Margarite,' who is supposed to watch over his individual fortunes. The 'Margarite' seems to correspond to the chivalrous idea of the *Lady-love*, in its purest sense, when its reference to a person was by no means indispensable, but when it signified rather 'the love of woman,' the highest object of the knight's ambition. Under the protection of this guardian spirit, the lover is represented as altogether sheltered from the caprices of fortune, and in her name he has a dose of rather frigid comfort administered to him, greatly resembling that which Boethius receives at the hands of Philosophy. Such is the general idea of the book; and it is a noble idea, embracing the very essence of society as it existed then, and presenting a much deeper view of that singular institution C. than is usually given in writers who have not been actually brought in contact with its influences. But to the two elements which we have mentioned as ingredients in the spiritual life of C., the Germanic traditions on the one hand, and those of classical antiquity on the other, a third must be added, perhaps the most important of all—that of Christianity as represented by the church. The clergy were too fully aware of the importance of early impressions not to seize on the imagination of the aspirant to C. at the all-important moment of his inauguration. The purifications, prayers, and vigils, the sacrament, and the vows by which this solemn rite was accompanied, were made deeply solemn and impressive (see KNIGHT: BANNERET: BATH: etc.); and their influence in casting a religious character over the whole institution of C., and occasionally in directing its energies specially to the propagation of Christianity, by means of the various religious orders of knighthood and the Crusades, was almost incalculable. Nor was the poet behind the priest in availing himself of the influences of C., and developing them in the region of the imagination. What Chaucer has exhibited in the work above referred to may be regarded rather as the philosophical than the poetical side of the institution. But to poets of a lighter and more imaginative cast of mind, C. has furnished, from the days of the troubadours down to the present poet-laureate, no insignificant portion of their subject-matter. King Arthur and his knights of the round table, the traditions regarding whom had been taken from a period altogether mythical, and long anterior to the existence of C. as an institution, became to the poetry of the middle ages very much what the heroes of the Trojan war were to that of the whole ancient world. Much astonishment has often been expressed at the contrast between the lofty and ideal

CHIVALRY—CHIVES.

purity of the code of morals inculcated by C., and the grossness of the lives of the men who were trained under its influences. The case is one which shows at once the moral inefficiency of mere sentiment, and yet the tendency of elevated sentiment to induce the inculcation of moral principles, which may ultimately influence action. Under C. the practice gradually, though slowly, conformed itself to the principles; and the elevated tone of these principles seems to have been the summons of awakening from long social degradation, and to have heralded the moral superiority of the modern over the ancient world.

CHIV'ALRY, COURT OF: military court, established by Edward III., of which the earl marshal and the lord high constable were joint judges. When held before the earl marshal alone it was merely a court of honor, but when both were present it was also a criminal court. Having encroached on the common law, its jurisdiction was defined by 13 Rich. II. stat. i. Under this act the court claimed power to give relief to such of the nobility and gentry as think themselves aggrieved in matters of honor, and to keep up the distinctions of degrees and quality. In criminal cases a jury was sworn; but in general the proceedings of the court were summary matters, being brought under its cognizance by complaint or petition. An attempt was made to revive the functions of the court in Queen Anne's time; but, except as represented by the earl marshal's court (see COLLEGE OF ARMS), it has now gone into abeyance.

CHIVASSO, *ké-vás'sō*: small city of Piedmont. n. Italy, in a fertile plain on the left bank of the Po, about 15 m. n.e. of Turin. It was formerly a place of considerable military importance, but its fortifications were destroyed 1804 by the French. The lampreys of C. are celebrated throughout Piedmont. It has manufactures of bricks, earthenware, soap, etc., and a trade in the agricultural produce of the district. Pop. 4,800.

CHIVES, or CIVES, n. plu. *chīvz* [F. *cive*, small onions without bulbs—from L. *cæpa*, an onion: F. *cheveler*, to put forth a small root]: small onions growing in tufts. Chive (*Allium schoeno'prasum*), is a plant of the same genus with the leek and onion (see ALLIUM), a perennial, $\frac{1}{2}$ ft.—1 ft. high, with very small, flat, clustered bulbs, increasing by its bulbs so as to form a sort of tuft. The leaves are tubular, cylindrical-tapering, radical, nearly as long as the almost leafless flowering-stem which is terminated by a hemispherical, many flowered, not bulbiferous umbel of bluish red, or, more rarely, flesh-colored flowers. The stamens are included within the perianth. This rather pretty little plant grows wild on the banks of rivers, and in marshy or occasionally flooded places in the middle latitudes of Europe and Asia. In some of the mountainous districts of Europe a variety is found, larger and stronger in all its parts, and with flowering-stems more leafy. Chives—the name is generally used in the plural—are commonly cultivated in kitchen-gardens, often as an edging for plots, and are used

CHIVY—CHLAMYDOSAURUS.

for flavoring soups and dishes. Their properties are very similar to those of the onion. The part used is the young leaves, which bear repeated cuttings in the season. In *bot.* C. are slender threads or filaments in flowers.

CHIVY, n. *chiv'i* [from *Chervy Chase*, the famous hunt and battle on the Cheviot Hills]: in the school game of ‘prisoner’s base’ or ‘prison bars,’ the chase or chivy after one who leaves the base or bar: V. to chase eagerly. CHIVYING, imp. CHIVIED, pp. *chiv'íd*.

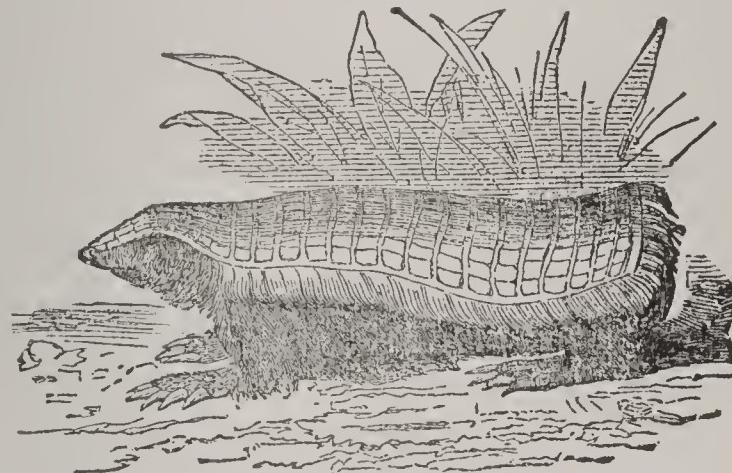
CHIZEROTS, *shēz-ēr-ōz*, AND BURINS, *bū'rinz*: as combined, forming one of those peculiar races in France that are isolated in the midst of the population, and are despised and hated by their neighbors.—They live in the arrondissement of Bourg-en-Bresse, in the dept. of Ain; and the communes of Sermoyer, Arbigny, Boz, and Ozan belong to them. According to tradition, they are descended from the Saracens. Although industrious and prosperous, they are held in utmost contempt and detestation by their peasant neighbors, who are often indolent and destitute. They are looked upon as covetous and malicious; and scarcely would the daughter of a small farmer, or well-to-do day-laborer, become the wife of one of them, so that they marry mostly among themselves. From time immemorial, the C. and B. have been field-laborers, cattle-dealers, butchers, etc. Many are very good-looking. The young women are handsome, clear-complexioned, with large black eyes. See Michel, *Histoire des Races Maudites de la France et de l’Espagne* (2 vols. Par. 1847).

CHLADNI, *chlād'nē*, ERNST FLORENS FRIEDRICH: 1756, Nov. 30—1827, Apr.; b. Wittenberg: founder of the science of acoustics. He studied law in his native place: also in Leipsic, where, 1782, he was made doctor of laws. C. ultimately abandoned juridical studies, turned to natural science, and, being acquainted with music, was led to observe that the laws of sound were not so well established as those of other branches of physics. He therefore began to apply his knowledge of mathematics and physics to acoustics, and travelled for ten years (after 1802) through Germany, Holland, France, Italy, Russia, and Denmark, giving lectures on the subject, which were very successful. He died in Breslau. C.’s writings include: *Discoveries concerning the Theory of Sound* (1787), *Acoustics* (1802), *New Contributions to Acoustics* (1817), and *Contributions to Practical Acoustics, with Remarks on the making of Instruments* (1822). C. wrote also several essays on meteoric stones.

CHLAMYDOSAURUS, *klām'-i-dō-saw'rūs* [Gr. *chlamys*, cloak; *sauros*, lizard]: Australian reptile, remarkable for a huge plaited frill covered with scales and serrated at the edge, about its neck. The C. is mostly yellowish brown in color mottled with black, and has a long, tapering tail; the tongue and inside of the mouth are yellow. It attains a length of near three ft. The frill, which at first is short, grows so as to cover the fore legs; at rest it lies back upon the body, but is erected when the animal is attacked or angry.

CHLAMYPHORE—CHLOANTHITE.

CHLAMYPHORE, n. *kläm'i-för*, or CHLAMYPHORUS, n. *kläm-if'ō-rūs* [Gr. *chlamus*, a coat; *phorēō*, I carry]: very remarkable genus of mammalia of the order *Edentata*, ranked by naturalists in the same family with the armadillos, but differing in important respects from them, and from all other known quadrupeds. It is considered allied to the immense extinct glyptodons. Only one species is known, *C. truncatus*, five or six inches long, native of the interior of Chili, living underground like the mole, which it much resembles in its habits, and feeding on the same kind of food. Its fore feet are adapted for digging, although in a different manner from those of the mole. The skull is destitute of sutures; there are resemblances to the osteology of birds in the ribs and their union to the



Chlamyphorus.

sternum; the hinder part of the body is altogether unlike that of any other known animal, in its terminating quite abruptly, as if cut off almost where its thickness is greatest, or as if the back were suddenly bent down at right angles, the tail not springing from where the line of the back appears to terminate, but far below. The whole upper and hinder parts of the body are covered with a coat of mail, made up of a series of square plates; the under part and legs are covered with long silky hair. The tail is very peculiar; it is covered with small scales, is expanded at the tip, and is usually incurved along the belly, but is furnished with such muscles as to suggest the probability of its being employed to throw back the earth in excavations.

CHLAMYS, n. *kläm'is* [L. *chlamys*, a coat, an upper garment; Gr. *chlamus*]: outer garment of the Greeks and some other nations of antiquity. It was of wool, often of brilliant colors, with length twice its width. In bot., a covering, applied to the floral envelope. CHLAMYD'EOUS, a. *-id'ē-ūs*, pertaining to.

CHLOANTHITE, n. *klō-ān'thit* [Gr. *chlōā*, verdure; *anthos*, a flower]: a compound of arsenic and nickel, valuable as an ore of nickel; the nickel varieties of smaltine—so named from its arborescent, reticulated appearance.

CHLOLICKI—CHLORANTHACEÆ.

CHLOLICKI, *chlō-pits'kē*, JOSEPH: 1772–1854, Sep. 30; b. Galicia: Polish general, and dictator of Poland during the revolution of 1830. He entered the army 1787, attracted the notice of Kosciusko during the first insurrection of the Poles, and after the storming of Praga, 1794, Nov. 9, when the hopes of the patriots were extinguished for awhile, he passed into the service of the new Cisalpine republic, and distinguished himself in various battles. In 1806 when Bonaparte called the Poles to arms, C., among others, obeyed, and fought gallantly at Eylau and Friedland. He was subsequently sent by the emperor into Spain, and in 1812 followed him to Russia, taking part in the bloody engagements at Smolensk and Moskwa. After the relics of the invading force had returned, C. left the imperial service. After the taking of Paris by the allies 1814, he led back to Poland the remains of the Polish troops who had fought under Bonaparte, and was well received by the Emperor Alexander, who made him a gen. of division. When the second insurrection of the Poles broke out, 1830, C., who foresaw the hopeless nature of the attempt, concealed himself; but the voice of the nation called him forth from his hiding-place, and 1830, Dec. 5, he was elected dictator. His moderate views, however, involved him in disputes with the extreme patriotic party, and he resigned his office 1831, Jan. 23; but he entered the Polish army as a simple soldier, and fought at Wavre and Grochow. He afterward retired to private life.

CHLORAL, n. *klō'räl* [Gr. *chlōros*, grass-green]: limpid, colorless, oily liquid obtained by saturating anhydrous alcohol with dry chlorine gas, and distilling with sulphuric acid: it has a peculiar, penetrating odor. It dissolves sulphur, phosphorus, bromine, and iodine, and is closely allied to aldehyde. CHLORAL HYDRATE, often popularly called chloral, is chloral combined with one equivalent of water. Chloral was discovered by Liebig 1831, and investigated by Dumas; the C. hydrate was used as an anæsthetic and hypnotic first by Liebreich 1869. Though now often abused, by being taken recklessly as a narcotic, C. hydrate is a valuable addition to the pharmacopœia; it is used to procure sleep in insomnia, and in various nervous diseases, insanity, delirium tremens, neuralgia, and strychnia poisoning. It is a dangerous drug: the average dose is from 15 to 30 grains; an overdose will cause death. CHLORALUM, n. *klō-räl'üm*, the chloride of aluminium, used as a disinfectant.

CHLORANTHACEÆ, *klō-rän-thä'së-ë*: nat. ord. of exogenous plants, closely allied to the peppers; herbaceous and half-shrubby plants.—The number of known species is small; all tropical, or natives of China and Japan. They are generally aromatic, and some are used as antispasmodics, stimulants, stomachics, and tonics. The roots of *Chloranthus officinalis* and *C. brachystachys* have been ranked among the most efficacious remedies in fevers and other diseases requiring continual and active stimulants, and instances have occurred of great benefit from their employment during the prevalence of epidemics in Java. *C. inconspicuus*

CHLORANTHOUS—CHLORINE.

is the CHU-LAN of the Chinese; its leaves, spikes of flowers, and berries are used by them for imparting a peculiar fragrance to tea. All the teas which have what is called the *couslip flavor* owe it to this plant.

CHLORANTHOUS, a. *klō-rān'thūs* [Gr. *chlōros*, grass-green; *anthos*, a flower]: in bot., having green-colored flowers.

CHLORIC ACID, *klō'rīk* (ClO_5): compound of one atom of chlorine and five atoms of oxygen; found generally in combination with potash, as the white crystalline salt, chlorate of potash (KO_ClO_5). This salt is mainly interesting from the readiness with which it parts with its oxygen to combustibles, as when thrown on red-hot charcoal, when it causes violent deflagration. The salt is employed in the fabrication of certain kinds of lucifer-matches, which give a slight explosion when struck. If a crystal of chlorate of potash be placed on a piece of paper saturated with turpentine, and a drop or two of oil of vitriol added, it causes the inflaming of the turpentine with explosive rapidity. The chlorate of potash is used in medicine, for imparting oxygen to the blood.

CHLORIC ETHER, *klō'rīk*: mixture of one part of chloroform with eight or nine of alcohol. As used by Dr. J. C. Warren, of Boston, it was much stronger, having but two parts of alcohol to one of chloroform. The British preparation contains much less chloroform than the American. C. E. diluted with water is administered internally as a sedative and mild anodyne for insomnia and some spasmodic affections, but it is now little used as an anaesthetic. The name was formerly applied to Dutch liquid or bichloride of ethylene, a compound of chlorine and olefiant gas.

CHLORINE, n. *klō'rīn* [Gr. *chlōros*, grass-green]: an elementary body in the form of a greenish-yellow gas possessing great power as a bleacher, and emitting a strong suffocating smell. CHLORIC, a. *klō'rīk*, of or from chlorine. CHLORIDE, n. *klō'rīd*, a compound of chlorine with a metal or other elementary substance. CHLORID'IC, a. -*īk*, pertaining to chloride. CHLORIMETER: see CHLOROMETER. CHLORINATE, v. *klō'rī-nāt*, to impregnate or combine with chlorine, as soda. CHLORITE, an abundant mineral, consisting of silica, alumina, magnesia, and protoxide of iron, in somewhat variable proportions. It is of green color, soft and friable, rarely occurs crystallized in hexagonal crystals, sometimes foliated like talc. It is rather soft, and is easily broken or scratched with a knife. Before the blowpipe, it is with difficulty fused on thin edges. It is readily distinguished from talc by its yielding water in a closed tube. CHLORITE-SCHIST, or CHLORITE-SLATE, a green, slaty rock, in which chlorite is abundant in foliated plates, usually blended with minute grains of quartz, and sometimes with felspar or mica. CHLORIT'IC, a. -*rīt'īk*, pertaining to. CHLORITIC SAND, any sand colored green by chlorite, generally applied to the greensand of the chalk formation. CHLORIDATE, v. *klō'rī dāt*, to treat or prepare

CHLORINE.

with a chloride, as a plate for the purposes of photography. CHLORIDE OF LIME, a compound of lime and chlorine, used in bleaching and as a disinfectant. CHLORIDE OF SODIUM, common salt. CHLO'RATE, n. -*rūt*, a salt formed by the action of chloric acid or chlorine upon an alkaline base. CHLOROUS, a. *kłō'rūs*, denoting an acid which contains equal parts of chlorine and oxygen.

CHLORINE: non-metallic element discovered by Scheele 1774, and named by him *dephlogisticated marine air*. Afterward, in 1810, Davy proved it an elementary body, and gave it the name which it now bears. In nature it is found always in a state of combination. United with sodium (Na), it occurs very largely as the chloride of sodium (NaCl)—common salt—in the ocean; in large beds, as rock-salt; in all natural waters, including even rain-water; in clays, soils, limestone; in volcanic incrustations, and in the vegetable and animal kingdoms. For the preparation of gaseous C. by its liberation, directly or indirectly, from common salt, see BLEACHING POWDER—the form in which C. is prepared and employed commercially. For experimental purposes, the gas may be received in jars filled with water at the pneumatic trough, when the C. rises into the jar and displaces the water. When thus obtained, it is a yellowish-green gas with a peculiar and suffocating odor, is not combustible, and a very feeble supporter of ordinary combustion. A lighted candle placed in it burns with a very smoky flame, owing to the hydrogen of the oil alone burning, and the carbon being liberated. Several of the metals, such as antimony, copper, and arsenic, in a fine state of division, or in the condition of thin leaves, at once become red-hot, and burn when introduced into the gas. A piece of thin paper soaked in turpentine likewise bursts into flame. C. has the symbol Cl, and the atomic weight or equivalent of 35·5. It is a very heavy gas, nearly $2\frac{1}{2}$ times heavier than air, its specific gravity being 2,470 (air = 1,000); it is soluble in cold water to the extent of two volumes of C. in one of water, and yields a solution resembling the gas in color, odor, and other properties. The principal properties of C. are those of a bleacher of cotton and linen (see BLEACHING), and a most powerful disinfectant (q.v.). The gas can be condensed by pressure and cold into a transparent dark, greenish-yellow limpid liquid, with a specific gravity of 1,330 (HO = 1,000), which also possesses bleaching properties, and a most powerful odor. On the animal system C. acts, in very minute quantity, by producing a sensation of warmth in the respiratory passages, and increasing the expectoration; in large quantity, by causing spasm of the glottis, violent cough, and a feeling of suffocation. The workmen in chemical manufacturers, who grow accustomed to the C. in small quantity, are generally stout—at least, gain fat—but complain of acidity in the stomach, which they correct by taking chalk, and also suffer from corrosion of their teeth, which are eaten away to stumps. The antidotes to the evil effects of the introduction of C. into the lungs are the inhalation of the vapor of water, alcohol, ether, or chloroform; but

CHLORODYNE—CHLOROFORM.

the two latter should never be resorted to except under medical supervision.

C. unites with the metals and many other substances to form an extensive class of salts known as *chlorides*.

CHLORODYNE, n. *klō'rō-dīn* [Gr. *chlōros*, grass-green; *odūnē*, pain]: patent medicine of considerable popularity, invented by Dr. Collis Browne, but largely imitated by various chemists. It contains opium, chloroform, prussic acid, and probably Indian hemp, and is flavored with sugar and peppermint. As it is apt to separate into two liquids on standing, it should never be taken unless it has previously been well shaken; and as, in taking a dose of C., the patient swallows an unknown quantity of three or four of the deadliest poisons with which we are acquainted, it is always advisable to begin with small doses. It is unquestionably a compound which sometimes succeeds in allaying internal pain and inducing sleep, when opiates have failed; but it may be a question with a physician whether to recommend a remedy with whose composition he is unacquainted. Ten or fifteen drops is the average dose.

CHLOROFORM, *klō'rō-fawrm*, or the TERCHLORIDE OF FORMYLE (C_2HCl_3) [Gr. *chlōros*, grass-green, and *formyle*: L. *formica*, an ant.]: volatile, thin, colorless liquid, remarkable for its property of producing sleep, and insensibility to pain, when inhaled by the lungs. It was discovered by Soubeiran, and experimented upon by Dumas, and was long known only to scientific chemists as a rare organic body, possessing interest from being one of a series of organic substances, but not known to possess any properties likely to call it into use, or even likely to let it be known by name to the general public. The remarkable power, however, which it has been found to possess of producing anaesthesia, has led to the preparation of C. on a very extensive scale. The materials employed are alcohol, water, and bleaching powder, and the proportions are four parts of bleaching powder to which sufficient water is added to make a thin paste, and thereafter one part of spirits of wine; the whole is introduced into a capacious retort, which must not be more than half-filled, and heat being applied the C., accompanied by water and a little alcohol, distils over. As the C. is heavier than water, and is not readily miscible therewith, two layers of liquid are obtained in the receiver—the upper being water and alcohol, and the lower being chloroform. The upper liquid being cautiously poured off, the C. is agitated with fused carbonate of potash, which abstracts the remaining traces of water, and on subsequent redistillation the C. is obtained pure and ready for use.

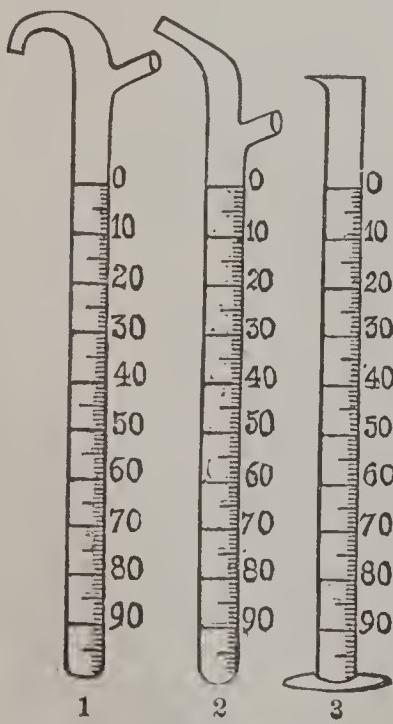
C. is a highly limpid, mobile, colorless liquid, which is very volatile, has a characteristic and pleasant odor, and an agreeable sweetish taste. It has a specific gravity of nearly 1,500 (water = 1,000), being thus half as heavy again as water, and boils at 140° F. It is not inflammable in the ordinary sense of the term, as it will not take fire when a light is brought down upon it; but when thrown on red-

CHLOROFUCINE—CHLOROMETER.

hot coals it burns with a green flame, evolving much smoke. It is slightly soluble in water, but more readily mixes with alcohol and ether. It dissolves camphor, amber, copal, and other resins, wax, caoutchouc, black and red sealing-wax, iodine and bromine, as well as strychnine and other alkaloids. Its purity may be determined by placing some on the palm of the hand, and allowing it to evaporate, when no alcoholic or other odorous substance should be even momentarily recognized; and by agitation with oil of vitriol, when, on settling, the C. should readily swim on the surface of the vitriol, and the two layers of liquid remain colorless. For employment of C. as an anaesthetic, see ANÆSTHESIA. C. is a substance that cannot be too cautiously dealt with, and should never be administered except in the presence and by the sanction of a medical practitioner. When skilfully given it is among the safest of all anaesthetics, and the greatest boon that chemistry has bestowed on suffering humanity.

CHLOROFUCINE, n. *klō'rō-fū'sin* [Gr. *chlōros*, grass-green; Gr. *phukos*, L. *fucus*, the plant alkanet, the red color from the same]: a clear, yellow-green coloring matter of plants; a variety of chlorophyl.

CHLOROMETER, n. *klō-rōm'ē-tér*, also **CHLORIMETER**, *-rīm'ē-tér* [Gr. *chlōros*, grass green; *metron*, a measure]: instrument for testing the strength of chloride of lime. **CHLOROMETRY**, n. *-ē-trī*, or **CHLORIMETRY**, process of estimating the proportion of available chlorine in bleaching powder (q.v.), which may vary from 20 to 36 per cent. The process depends upon the great power with which chlorine, in the act of being liberated from its compounds, causes the oxidation of many substances. The salt generally used is pure crystallized sulphate of iron, which, in its ordinary state, gives a deep blue color, with a drop of ferridcyanide of potassium, but ceases to do so when it has been fully oxidized, or converted from a proto-salt into a per-salt, through the influence of chlorine. It being known that 78 grains or parts of sulphate of iron are oxidized by 10 grains or parts of chlorine, the mode of procedure in C. is as follows:



Burettes.

78 grains of fine crystals of the sulphate of iron are dissolved in water slightly acidulated with hydrochloric acid in a white porcelain basin. A given quantity of the bleaching powder—say 50 grains—is dissolved in a little tepid water, and introduced into a tall measure-glass called a chlorometer or burette (figs. 1, 2, and

3), similar to an alkalimeter, which is divided into 100

CHLOROPHÆITE—CHLOROSIS.

parts, and water added till the solution rises to the top mark. After subsidence of the insoluble matter, the clear solution is very gradually poured into the solution of sulphate of iron in the basin, the whole being kept constantly stirred, and every now and again a drop of the iron solution is taken out and placed on a new drop of ferridcyanide of potassium placed on a white plate; and whenever the iron solution ceases to produce a deep blue, and forms only a light greenish-yellow tint, it is known that the iron has been fully oxidized by the chlorine. Suppose that at this stage the burette has been emptied to the 55th division; as we know that the liquid poured out must have contained 10 grains of chlorine, we can calculate the chlorine contained in the whole; for

$$55 : 10 :: 100 : 18\cdot18.$$

Thus 50 grains of the powder contain 18·18 grains of chlorine, or 36·36 per cent. Protochloride of manganese, subchloride of mercury (calomel), or a solution of indigo of known strength, may be used instead of the sulphate of iron; but the latter is preferable, and is generally used.

CHLOROPHÆITE, n. *klō'rō-fē-īt* [Gr. *chlōros*, grass-green; *phaios*, brown, in allusion to the change of color produced by exposure]: a soft earthy mineral of an olive-green color, changing to blackish-brown. CHLO'ROPHANE, n. *-fān* [Gr. *phaino*, I shine]: a variety of fluor-spar, exhibiting a bright-green phosphorescent light when heated.

CHLOROPHYL, n. *klō'rō-fil* [Gr. *chlōros*, grass green; *phullon*, a leaf]: substance to which the leaves and other parts of plants owe their green color. It is somewhat analogous to wax, is soluble in alcohol and ether, but insoluble in water, and floats in the fluid of the cells, in the form of minute granules. Light is indispensable to its formation, and hence arises the familiar phenomenon of blanching (q.v.), either from accidental causes or by the art of the gardener. Young leaves do not exhibit so deep a green as those which have been longer exposed to the light, and the green of a leaf generally deepens till it begins to change into the tints of autumn. *Hydra viridis*, and other minute animals, appear to owe their green color to a substance analogous to chlorophyl.

CHLO'ROPS: see CORN-FLY: WHEAT-FLY.

CHLOROSIS, n. *klō-rō'sis* [Gr. *chlōros*, green]: peculiar form of anaemia or bloodlessness, common in young women, and connected with the disorders incident to the critical period of life. It has been called the *green sickness*, from the peculiar dingy greenish-yellow hue of the complexion; the green color, however, is not always characteristic. The disease is attended with very great debility, often with breathlessness, palpitation, and other distressing, or even alarming symptoms. When there is no organic disease present, however, C. may be pronounced curable in a large proportion of cases. The principal means to be employed are air, exercise, often salt-water baths, the use of iron, with a nutritious and rather stimu-

CHOATE.

lating diet, and purgatives if required; together with such special remedies as are adapted for restoring deficient secretions, and bringing the entire female system of organs into a natural condition. CHLOROSIS, in *Botany*, loss of color; etiolation; diseased state of plants, in which a sickly green or greenish-yellow color takes the place of the natural lively hue. Sometimes only a particular shoot is affected by it, but generally the whole plant; and it seems to depend upon causes which render the plant altogether unhealthy, the pallid appearance being merely symptomatic, and not only the formation of chlorophyl, but all the functions of vegetable life being languidly and imperfectly carried on.

CHOATE, JOSEPH HODGES: an American diplomatist; b. 1832, Jan. 24; descended from John Choate, who came from England, 1640; graduated at Harvard College, 1852, and was admitted to the bar, 1855. In 1856 he settled in New York and became a partner in the law firm of Evarts, Beaman and Choate. He had a reputation in New York as a lawyer and public speaker that is seldom equalled by leaders of the bar in that city. President McKinley made him ambassador to England, 1899, Jan. 12. The Senate promptly confirmed the appointment, which gave great satisfaction both in the U. S. and in England.

CHOATE, chōt, RUFUS, LL.D.: 1799, Oct. 1—1859, July 13; b. Essex, Mass.: lawyer and orator. He graduated at Dartmouth 1819, was tutor there a year, studied law at Cambridge and under Wirt at Washington, was admitted to the bar 1823, began practice at Danvers, Mass., removed to Salem 1828 and to Boston 1834. He was in the legislature 1825, in the state senate 1827, and in congress 1830-34, where he made a notable speech on the tariff 1831. He declined re-election to the house, but filled Webster's unexpired term in the senate, 1841, Feb.—1845, Aug. Here, as at the bar, he took very high rank as an orator; among his ablest speeches were those on the McLeod case, the Oregon boundary, the tariff, the bank, the Smithsonian Institution (of which he was a regent), and against the annexation of Texas. Returning to his true sphere at the Mass. bar, of which he was the unquestioned leader after Webster's death (1852), he won many forensic triumphs. As a pleader he had no superiors; his striking appearance, rich voice, sweet temper, strong magnetism, high culture, and rare eloquence, made a deep impression on his hearers. He loved poetry and history, and was given more to gentle humor than to sarcasm and invective. Less majestic and commanding than Webster, he was more human and sympathetic. He spent some months in Europe 1850, was a member of the whig national convention at Baltimore 1852, and of the Mass. constitutional convention 1853. Fearing danger to the Union and anxious to conciliate the South, he supported Buchanan 1856. His health gradually failed, and with his son he sailed, 1859, for Europe, but left the vessel at Halifax, and died there. His works, with a memoir by S. G. Brown, appeared in 2 vols. at Boston, 1862. Among his greatest efforts were the eulogies on Pres. Harrison (1841) and Webster (1853),

CHOCARD—CHOCOLATE.

an address on the anniversary of the landing of the Pilgrims (1843), one at the dedication of the Peabody Institution at Danvers (1854), an oration before the Young Men's Democratic Club of Boston (1858), two addresses before the Cambridge Law School, and two before the Boston Mercantile Library Association.

CHOCARD, or CHOQUARD (*Pyrrhocorax*): genus of birds of the Crow family (*Corvidæ*), differing from the choughs in having a shorter bill, though arched like theirs, but resembling choughs in their habits. The only European species is the Alpine C., also called Alpine chough, and Alpine crow (*P. pyrrhocorax*); about the size of a jack-daw, of a brilliant black, with yellowish bill and red feet.

CHOCK-FULL, a. *chök-füł*, or CHUCK-FULL, a. *chük-* [Swab. *schoch*, a heap; *geschoppt voll*, crammed full]: full up to the brim; full to overflowing.

CHOCKS, *chöks*: pieces of wood on ship-board to aid in the support of various articles. Among them are anchor-chocks, rudder-chocks, boat-chocks, stow-wood chocks, and chocks to support the ends of the beams.

CHOCO, *chō'kō*: a bay of New Granada, S. America; forming part of the Gulf of Darien. It receives the Atrato (q.v.), a stream of note in connection with inter-oceanic communication; lat. and long. about $3^{\circ} 30'$ n., and $77^{\circ} 30'$ west.

CHOCO: province forming the w. portion of the dept. of Cauca (q.v.), one of the United States of Colombia.

CHOCOLATE, n. *chök'ō-lät* [F. *chocolat*—from Sp. *chocolate*: Mexican, *cacuatl* or *chocolatl*, cacao]: seeds or beans of *Theobroma cacao* (see COCOA, not *cocoa-nut*), reduced to a fine powder or paste in a heated iron mortar, or by a machine, and mixed with pounded sugar and spices, as cinnamon, cloves, cardamom, vanilla, etc. The paste is then poured into molds of white iron, in which it is allowed to cool and harden. C. is sometimes made without spices, but is then generally called cocoa. The paste is sometimes mixed with flour, and with carrageen or with Iceland moss; and for medicinal purposes with chincona, etc. C. is used as a beverage, and for this purpose is dissolved in hot water or milk. Sometimes the yolk of an egg is added, and sometimes it is dissolved in soup or wine. It is used also in making certain liqueurs. In a pure state, it soon satisfies the appetite, and is very nourishing; when it contains spices it is also stimulating. Good C. is externally smooth, firm, and shining—not gritty in the fracture—easily soluble, aromatic; not viscid after having been liquified and cooled, but oily on the surface, and leaves no sediment of foreign substances. C. is adulterated in many ways, by mixing it with rice-meal, oat-meal, flour, potato-starch, roasted hazel-nuts or almonds, and with benzoin, storax, etc., in place of vanilla. The Mexicans, from time immemorial, were accustomed to prepare a beverage from roasted and pounded cocoa, dissolved in water, and mixed with maize-meal and spices. This

CHOCOLATE ROOT—CHOICE.

they called chocolatl [*choco*, cocoa, and *latl*, water]. From the Americans the Spaniards derived an acquaintance with C., and by them it was introduced into Europe, 1520. C. is used in S. America, Spain, and Italy, more than in other parts of the world, though it is used to a considerable extent in Germany, and still more in the United States. Its use in Britain has given place in a great measure to that of the simpler cocoa unmixed with spices: see COCOA.

CHOCOLATE ROOT: see GEUM.

CHOCTAWS, *chök'tawz*, or CHAHTAS: Indian tribe, settled originally in what are now w. Ala. and s. Miss. They supposed themselves to have emerged from a cave in a sacred hill, and cultivated the soil to some extent. De Soto fought a battle with them, 1540; De Luna's Spaniards aided them, 1560, against the Natchez. When the French settled La., about 1700, the C. became their allies, helped them in wars with the Natchez and Chickasaws, and admitted their missions and forts; they then had 40 villages and over 2,500 warriors. They afterward became friendly to the English, acknowledged the U. S. govt. 1786, were secured in the possession of their lands, and rendered service in the war of 1812 and that with the Greeks. They began to move w. by 1800, and 1820 exchanged part of their lands for a region on the Arkansas. Ga. extended her jurisdiction to their territory and admitted them to citizenship; but they ceded, 1830, their remaining lands, in all 19,000,000 acres, receiving 20,000,000, besides \$2,225,000 in money and goods. In this cession and emigration, and in their first settlement between the Arkansas, Canadian, and Red rivers, they were connected with the Chickasaws (q.v.). A mission of the American Board had been established among them 1818; the Presbyterians, Baptists, and Methodists came later. Thus assisted, they made gains in civilization. By a constitution adopted 1838, and subsequently amended, they are governed by an elective chief and a house of representatives; they have trial by jury, supreme, civil, and probate courts, and justices of the peace. Their progress, like that of the Chickasaws, was interrupted by the war of secession, in which they took the Confederate side; their schools were closed, their buildings ruined, and their numbers reduced to 12,500. They were placed under a temporary govt. 1866, their slaves freed and provided for, and part of their lands taken from them. They have since attained a fair degree of prosperity, and now number 16,500, ranking next to the Cherokees among the various tribes in the Indian Territory. Their language is irregular, but has a grammar by C. Byington (Phila. 1870), a number of books produced by the missionaries, and a weekly paper, published at New Boggy.

CHODE: see CHIDE.

CHOICE, n. *choys* [F. *choix*; OF. *chois*, choice—from *choisir*, to choose (see CHOOSE)]; the determination of the mind in preferring one thing to another; option; the thing

CHOIR—CHOISEUL-AMBOISE.

chosen; election: ADJ. select; precious; very good, or best; selecting with much care. CHOICE'LESS, a., without a choice. CHOICE'LY, ad. -*lī*, in a choice manner; excellently. CHOICE'NESS, -*nēs*, the quality of having a particular value.—SYN. of ‘choice, n.’: option; preference; selection; election;—of ‘choice, a.’: select; precious; costly; exquisite; uncommon; rare.

CHOIR, n. *kwōir* [F. *choeur*; OF. *choir*, a choir—from L. *chorus*; Gr. *choros*, a dance in a ring, a company of singers]: a band of singers in a church; the place in the church where they sing. CHORUS, n. *kō'rūs*, a number of singers singing together; the part of a song repeated at the end of every verse; the refrain. CHO'RAL, a. -*ral*, pertaining to what can be sung by a choir. CHO'RALLY, ad. -*lī*. CHO'RIST and CHORISTER, n. *kōr'is-tēr*, one who sings in a choir.

CHOIR [L. *chorus*]: literally, the portion of the church assigned to the singers; and in all descriptions which concern the ritual it is so limited, including only the space from the western door or screen to the end of the stalls, while the part from the stalls eastward to the high-altar is called the presbytery. But in ordinary language, when designating a portion of a cathedral, and even as used by architects, it denotes the entire space inclosed for the performance of the principal part of the service. In this sense, it includes the C. proper and the presbytery, and corresponds to the chancel in parish churches. Where the church is cruciform, and the term is confined to the eastern limb, it comes to be entirely different from the C. in the ritual sense, or the stall-place, which in such a building is commonly situated either under the tower or in the nave. In large churches, the aisle generally runs along each side of the C., and frequently passes across the e. end of it; an arrangement very common in the larger churches of the continent which have polygonal or semicircular terminations. C. is the name given also to the singers of the choral service.

CHOIR-SCREEN, or CHOIR-WALL: screen or wall which divides the choir and presbytery from the side aisles. It is often very richly ornamented.

CHOISEUL-AMBOISE, *shwā-zēl' ōng-bwāz'*, ETIENNE FRANÇOIS, Duc DE: Minister of Louis XV.: 1719, June 18—1785, May 7. He was educated by the Jesuits, and, on the completion of his studies, entered the army. He fought bravely in the Austrian wars of succession; but only after he had attracted the fancy of the king's mistress, Madame Pompadour, did fortune really favor him. Through her influence, he was made lieut. gen. 1748, ambassador to the courts of Rome and Vienna 1756, and Duc de Choiseul 1758. C. now became instrumental in bringing about a family league of the Bourbon monarchs in Europe; and in 1763, at the close of the war so disastrous to the French arms, he obtained, by his prudence and dexterity, milder terms for his nation than had been expected. This made him very popular, as did also his successful attempt to

CHOKE—CHOKE-CHERRY.

overthrow the Jesuits. In 1764, Madame Pompadour died, but the power of C. continued unabated. He conceived, and almost carried out, a plan for the formal emancipation of the Gallican church from papal influence, gave great attention to the improvement of the army and navy, developed the trade and industry both of the nation and of the colonies, and opened up anew an intercourse with India, whose native princes were assisted by French officers in their endeavours to expel the British from the peninsula. He had spies in every European court, and so ruled all diplomatic and political cabals that the Empress of Russia, who dreaded him, called him *Le Cocher de l'Europe* ('The Driver of Europe'). But the rise of Madame Dubarry, who succeeded Madame Pompadour in the royal affections, gradually alienated Louis from his able minister, and in 1770 he retired to his magnificent estate of Chanteloup, where he lived in princely splendor. After the accession of Louis XVI. C. received permission to return to Paris. He was often consulted, but never recovered his official position.

CHOKE, v. *chōk* [Icel. *kok*, the throat; *koka*, to swallow, to gulp: W. *ceg*, the throat; *cegu*, to swallow: AS. *ceocian* to choke]: to stop the passage of the breath by filling the windpipe with some body, or by compressing or squeezing the throat; to smother or suffocate; to obstruct or block up; to hinder. **CHO'KING**, imp.: ADJ. suffocating: N. the act or feeling of being choked. **CHOKED**, pp, *chōkt*. **CHO'KER**, n. one who, or that which chokes; in *mil.*, two strong pieces of wood to compress and test the circumference of a fascine. **CHOKE-DAMP**, n. the carbonic acid gas of mines whose respiration is deadly: see CARBONIC ACID. **CHO'KY**, a. -*ki*, tending to choke. **CHOKE'-FULL**, a.: see CHOCK-FULL, which is the proper spelling. **CHOKE-BERRY**, a species of pear-tree, *Pyrus arbutifolia*. **CHOKE-PEAR**, a kind of pear with a rough astringent taste; therefore swallowed with difficulty; a sarcasm, by which one is put to silence.—SYN. of 'choke': to suffocate; smother; stifle; strangle; throttle; hinder; check, offend.

CHOKE'-CHERRY: certain nearly allied species of Cherry (q.v.), of the Bird-cherry section of the genus or sub-genus, natives of N. America, having small fruit in racemes, and the fruit at first rather agreeable, but afterward astringent in the mouth. Some confusion has long existed as to the different kinds, and their botanical names (*Prunus* or *Cerasus Virginiana*, *serotina*, and *borealis*) are not more determinate than the popular ones. Perhaps they ought to be regarded as mere varieties rather than distinct species. They have a considerable resemblance to the Portugal Laurel, though the leaves are deciduous. The bark is used as a febrifuge and tonic, under the name of *Wild Cherry Bark*; and by destilling it with water, a volatile oil is obtained from it associated with hydrocyanic acid, called *Oil of Wild Cherry*. This bark allays nervous irritation, and is suitable particularly as a first tonic in cases of recovery from fever or inflammation.

CHOKING.

CHOKING: obstruction of the gullet, or of the passage leading to it, whether by compression of the throat or by morsels of food imperfectly chewed, or other substances accidentally swallowed. For the consequences of C. in the human subject; see PHARYNX: OESOPHAGUS.

Choking in Cattle.—Causes.—These may be classified under two heads: 1. Those that depend on the material swallowed; 2 Those that depend on the animal swallowing. In the first class are sharp-pointed objects which become fixed into or entangled in the membrane lining the throat and gullet; solid masses too large to pass on to the stomach; dry farinaceous materials which clog in the passage. The second class of causes consists in inflammation of the throat, or irritation of the organs of deglutition; constrictions of the passage, as in crib-biting horses; ulceration of the oesophagus, which is apt to run after C., and is the cause of a relapse; lastly, without any disease of the degluting organs, an animal may be choked by eating too greedily, and imperfectly masticating or salivating its food.

Symptoms.—These vary according to the position of the obstruction. If high up in the pharynx, the animal cannot swallow, evinces great distress, and attempts to cough up the object. Saliva drivels from the mouth, the animal chews, and makes an occasional ineffectual effort to swallow. The breathing is very greatly disturbed. In some cases a large lump of food has become fixed in the larynx or upper part of the windpipe, and has suddenly suffocated the animal. When the obstruction is in the course of the gullet down the neck, the symptoms are very similar, though less urgent, and there is additionally the local sign of swelling, with the peculiar hardness or softness of the substance indicating its nature. When an animal is choked by a substance iodging in the gullet within the chest, the symptoms are more mysterious, and likely to mislead. The animal swallows; a considerable quantity of liquid may enter the gullet, but it is suddenly regurgitated or thrown up, as in the act of vomiting. The distress is great; and in the course of three or four days, unless the animal is relieved, it dies of prostration. In the ox, sheep, and goat, the most alarming symptoms, in any



Probang.

case of C., arise from the paunch becoming distended by gas. Concerning this condition, see HOVEN.

Treatment.—Remove the obstruction with the hand, when it is possible. Cause the animal to swallow the substance, if possible, by giving it water or oil. Carefully push the

CHOLAGOGUE—CHOLER.

offending agent down by a probang, if it is possible to effect this, and if withdrawal by the mouth is impracticable. In some cases, the gullet has to be cut into by a qualified surgeon. After a case of C., keep the animal on soft food, and attend to its general health, in order to avoid a relapse, which is of frequent occurrence in cattle.

CHOLAGOGUE, n. *kōl'ā-gōg* [Gr. *cholē*, bile; *agōgos*, a leader]: a medicine which acts on the liver, and increases the flow of bile.

CHOLEDOCHUS, n. *kōl-ēd'ō-kūs* [Gr. *cholē*, bile; *dech'ō-mai*, I receive]: the common bile-duct, conveying bile both from the liver and the gall bladder into the duodenum.

CHOLEPYRRHINE, *kōl'e-pir'rīn*: brown coloring matter of human bile. It is readily altered by re-agents. The alteration in color produced by nitric acid has been proposed as a method of detecting bile in urine, which, if bile be present, becomes first green, then blue, and finally violet, where nitric acid is added to it.

CHOLER, n. *kōl'ēr* [OF. *colere*, or *cholere*, choler, anger—from Gr. and L. *cholērā*—from Gr. *cholē*, bile]: the bile, the flow of which was supposed to cause anger, or the redness of the face in anger; anger; wrath; irascibility. **CHOL'ERIC**, a. *īk*, easily irritated; irascible; excited by anger. **CHOL'ERA**, n. *-ā*, bilious vomiting and purging—the milder form of the disease is called BRITISH CHOLERA. **CHOLERA-MOR'BUS** [L. *morbis*, sickness, disease]: in the United States, the milder form of the disease; but in Britain, name of the malignant form called also ASIATIC CHOLERA. **CHOL'ERA'IC**, a. *-ā'īk*, pertaining to the disease cholera.

CHOLERA.

CHOLERA [Greek term used in the Hippocratic writings, but of indeterminate etymology, derived perhaps from *cholē*, bile, or from *cholera*, a water-spout or gutter]: term now universally applied to one of two or three forms of disease, characterized by vomiting and purging, followed by great prostration of strength, amounting in severe cases to fatal collapse. The variety called *cholera sicca* (dry C.) by ancient writers (in which collapse and death take place without discharges) is comparatively rare. The milder forms of C. occur almost every summer and autumn, even in temperate latitudes, and are hence termed by some —by way of contrast—British C. or summer C.; and, in the United States, cholera morbus (see Dunglison's work); while the more devastating and fatal forms of the disease are generally supposed to originate only in tropical countries—especially in India—and thence to be propagated epidemically over vast populations, and in a somewhat regular geographical course, reaching western Europe usually through Persia, the steppes of Tatar, Russia, and the Baltic, at the same time extending to Egypt, Turkey, and southern Europe. These very fatal forms of the disease are commonly called Asiatic, Oriental, or epidemic C.; sometimes pestilential cholera, and in Britain (with an application different from that in the United States) cholera morbus. The milder forms are sometimes called also bilious C.; and the severer, spasmodic C., from the character in the symptoms in each. Some writers of great authority are inclined to consider the two forms as one disease, varying in individual cases and according to season. It is certain that it is not always possible to distinguish the one form from the other in particular instances; but the marked difference between the mortality of groups of cases of British C. on the one hand, and of Oriental or Asiatic C. on the other, renders it probable that there is something in the latter disease which amounts to a distinction in kind. Whether in the milder or severer form, C. is usually ushered in by a period of premonitory symptoms, when the more distinctive characters of the disease are not established, the case resembling one of common diarrhea (q.v.) or looseness of the bowels. At this stage it is very apt to be neglected, and, unfortunately, in the severer epidemic forms of the disease this is the only stage much under control. Whenever, therefore, there is a reasonable suspicion that epidemic C. is threatened, every person attacked with diarrhea should make a point of placing himself under medical advice, and, if possible, of escaping from any situation in which epidemic disease is known to be prevalent. He should also be particularly attentive to diet, especially to the purity of the water that he drinks, and to its absolute freedom from contamination by animal matters filtering through the soil, or thrown into water-courses by sewers, etc. If water cannot be had in a pure state it should be boiled before being used for drink, or indeed for any domestic purpose. Many cases of C. and several local epidemics, have been traced in the most positive manner to organic impurities of the drinking-water; and no single

CHOLERA.

cause of the disease has been established by so much evidence as this. Hence, in all probability, arises the well-known preference of C. for low situations, and particularly for the low-lying flats on the banks of rivers, especially where the inhabitants are supplied with water from streams or wells polluted by sewerage. The researches of the British scientific commission sent to Egypt during the severe epidemic of 1883, and especially those of Dr. Koch 1884, when Toulon, Marseilles, and (later) Naples suffered severely, seem to prove that C. is due to the presence and multiplication in the intestines of a specific bacillus or bacterium: see GERM THEORY.

Fully developed Asiatic C. is truly an appalling pestilence,* easily recognized by a few leading features. After some hours or days of simple relaxation of the bowels, vomiting commences, and occurs again and again, accompanied by frequent and extremely copious discharges downward, at first of matters colored with bile as usual, but in the end of colorless and turbid fluid resembling water in which rice has been boiled. These discharges (often to the extent of gallons of liquid), succeeding each other with the most alarming rapidity, act as a drain upon the fluids of the body generally; and by the changes they effect upon the blood, contribute to bring about the state called *collapse*. In this condition the patient lies motionless and apathetic, except when tormented by cramps, which are frequent; the surface is cold; the finger-cuds, lips, and tip of the nose become livid; the eyes are deeply sunk in the sockets, and often bloodshot; the tongue is clammy; the breath without any sensible warmth when caught on the hand; the pulse is suppressed at the wrist, the breathing extremely slow and feeble, the heart just audible through the stethoscope. Purging and vomiting have ceased; even the urinary secretion is dried at its source. In fact, all the vital processes are nearly brought to a stand, and unless reaction comes, a few minutes, or at most a few hours, suffice to bring life to a close. Reaction in the most favorable cases is gradual and without accident; it is not unfrequently, however, accompanied by fever, closely resembling typhus, and constituting, at least in the temperate zone, one of the chief dangers of the progress of cholera.

Medicine is almost powerless against C., except in the earliest stages, in which the treatment usually pursued in diarrhea (q.v.) has sometimes been found useful. Very remarkable temporary restorative effects have been found to follow the injection into the veins of dilute solutions of saline matter, resembling as nearly as possible the salts of the blood which are drained away in the discharges. Unhappily these experiments have as yet only very imperfectly succeeded. The patient is restored to life, as it were, from the very brink of the grave; but he revives for only a few hours, to fall back into his former condition.

* The epidemic of 1848-49 carried off 53,293 persons in England and Wales; and that of 1851, 20,097 persons,¹ exclusive of cases of fatal diarrhea. The next visitation was in 1866. In Egypt, 1883, the C. carried off 55,000 persons, and probably twice as many deaths were not registered.

CHOLERA INFANTUM.

The true medicine of C., so far as yet known is preventive medicine. The measures to be adopted have been partly pointed out above (see DIARRHEA); in addition, personal cleanliness is of the first importance; and all unnecessary contact with the sick should be avoided, as the disease is probably to some extent contagious, though certainly not in the highest degree. In short, all the precautions are to be taken which are recommended in the case of epidemic disease (q.v.)

CHOLERA INFANTUM: this term embraces a group of general conditions which can scarcely be said to form one distinct disease, although its more prominent symptoms are quite marked. It receives different names in different countries. In France it is called colo-enteritis, follicular enteritis, and gastro-intestinal catarrh. In England its generic name is diarrhea. In Germany it is usually called gastro-intestinal catarrh. Although these names describe the location and general pathological lesions, they are somewhat misleading, as they fail to give a good idea of the real nature of the affection. Our older American physicians were accustomed, with Dr. Benjamin Rush, to call C. I. infantile bilious remittent fever, and the more typical forms are well described by this name. But its association with bilious fever is also liable to be misleading, which will appear from a consideration of its causes and peculiar symptoms. Its subjects are generally children between six months and two years old who have been exposed to the air of hot and moist apartments, or inhabiting houses situated on streets not well cleaned, and where there is decay of garbage. But it is not unknown among those who are in good circumstances, live well, and are supposed to be surrounded by good sanitary conditions. The disease commences in the intestinal canal, but after a time it vitiates the condition of the whole system. The symptoms of its appearance are various, sometimes coming on suddenly with prostration and vomiting, but often insidiously, with occasional diarrhea. This may be very profuse, the sufferer becoming emaciated rapidly. Those having care of children in the summer or autumn need to exercise great vigilance at every appearance of intestinal trouble, particularly if the stools are of a greenish and slimy character, or if they are very pale and contain quantities of curdy lumps. The characteristic symptoms of the disease, by which the experienced practitioner detects it almost at a glance whenever called in at a later stage of the disease, is a peculiar withered and wrinkly appearance of the skin, difficult to describe but easy to recognize. At this stage the most judicious treatment is necessary to save the life of the patient in most cases.

Treatment.—In the commencement of the attack it is well to give a gentle laxative, or in some cases a sufficiently active cathartic to unload the intestines of their obnoxious contents. If the patient is very weak it is better to administer gentle stimulants and opiates for a day or so. Chalk mixture or other antacid remedies, as bicarbonate of soda, or calcined magnesia, or the carbonate, or lime water are useful; but the principal reliance should be upon the administration of alter-

CHOLESTERINE.

atives, for the purpose of bringing about a normal condition of the general system. In the judgment of a majority of the most experienced physicians the most efficacious remedy is found in minute doses of calomel, from one eighth to one half a grain, every two, three, or four hours, according to circumstances. This should be combined with a very minute quantity of an opiate, say from three to 20 drops of elixir of paregoric, two or three times a day or oftener. The use of the anodyne is simply for the purpose of checking the action of the bowels until the alterative commences to exert its effects in correcting the secretions. The aromatic sirup of rhubarb is a useful adjunct in many cases. There is a difference of opinion in regard to the mode of action of calomel in this disease, but it is generally believed that it acts in a two-fold manner. It stimulates the secretory power of the liver, which, if it is not primarily affected, in those cases which are complicated with marsh miasmatic influence, always becomes involved as the disease advances, and it also acts upon the intestinal digestive glands, conduceing to a normal standard of secretion. The anodynes or opiates mentioned above should be discontinued as soon as possible, or at least greatly diminished. In some cases the action of the calomel alone will bring about the desired result, but it is always well to assist with a small quantity of opiate for the first two or three days at least. The astringent and opiate remedies which unfortunately are too often administered in this insidious disease ought not to be given, except temporarily, as above described, for the purpose of affording relief till the system comes into a better condition. The patient should be removed to a location where the air is salubrious. The open air under shade trees in a mountainous region has been a favorite prescription with many judicious physicians; but the sea shore, where good rooms can be had, is, perhaps, better. Warm bathing, either in fresh or salt water, is almost always beneficial.

As important a question as all others combined is that of diet, and for that reason is the last mentioned. If the child is not weaned the healthy female breast affords, as a rule, the best nourishment. The next to this is a first-rate cow's milk, diluted; but it may disagree with the child. What can be substituted? The parents' anxiety is sometimes extreme; everybody's advice is asked, and if it is not it is pretty sure to be given. Here calmness and judgment is important. The writer has known, in many cases, the best brands of canned condensed milk to furnish good food for infants. Beef tea, made from the best beef extracts, or from the raw meat, is often of very great service. As a rule, starchy foods, such as corn starch, farina, arrowroot, etc., are improper food, with one exception, and that is rice-water. For some reason this agrees better with the infant's stomach and is not so liable to fermentation. Of course no case of cholera infantum should ever be treated by any but an experienced physician.

CHOLESTERINE, or CHOLESTERIN, n. *kō-lēs'tér-in* [Gr. *cholē*, bile; *stear*, tallow or fat]: white, fatty, crystallizable substance, found principally in bile. C. is one of

CHOLET—CHOMEL.

those bodies termed by chemists lipoids, or non-saponifiable fats. It was discovered originally in gall-stones, but is now recognized as an ordinary constituent (though occurring in very minute quantity) of bile, blood, and the tissue of the brain. It occurs likewise in pus, the contents of cysts, and other morbid fluid products.

It separates from its solutions in glistening nacreous scales, which, when examined under the microscope, appear as very thin rhombic tablets, whose obtuse angles are $100^{\circ} 30'$, and whose acute angles are $79^{\circ} 30'$. Different formulæ have been assigned for its composition, the one generally accepted being $C_{37}H_{52}O$. It is not always very easy of detection in animal fluids, but if, by its insolubility in water, acids, and alkalies, and its solubility in hot alcohol and ether, it has been recognized as a fatty substance, it may be readily distinguished from all similar substances by the measurement of the angles of its rhombic tablets. The best method of preparing C. is by boiling gall-stones containing it in alcohol, and filtering the solution while hot. From this hot filtered solution it crystallizes as the fluid cools.

Chemists have obtained substances known as *cholesterin* and *cholesterones* from the decomposition of cholesterine.

CHOLET, *shō-lā'*: town of France, dept. of Maine et Loire, on the right bank of the Maine, 32 m. s.w. of Angers. Here, during the Vendean war, two actions were fought in 1793, in both of which the royalists were defeated. In the first, they lost their brave general Bonchamps; and in the second they were driven across the Loire, thus virtually deciding the war against them. C. has manufactures of fine woolen and mixed fabrics, and leather, and a trade in cattle. Pop. (1881) 13,921; (1886) 14,826.

CHOLIC, a. *kōl'ik* [Gr. *cholē*, bile]: of or belonging to bile; an acid obtained from bile; also **CHOLEIC**, a. *kō-lē'ik*. **CHLOOIDIC**, a. *kō-loy'dik* [Gr. *eidos*, resemblance]: denoting an acid obtained from bile.

CHOLULA, *chō-lō'lā*: formerly flourishing, now decayed, town of Mexico, 60 m. e.s.e. of the capital, and 15 w.n.w. of La Puebla. Cortes found in it 20,000 houses (indicating a pop. of 50,000–100,000), and as many more in the suburbs, and also 400 temples. Its most remarkable memorial of aboriginal times is a pyramid of clay and brick, surmounted on the top by a chapel of Spanish origin. The pyramid is 177 ft. in height, while the side of its base measures 480 yards. C. stands on the table-land of Anahuac, 6,912 ft. above the level of the sea. Pop. abt. 10,000.

CHOMEL, *shō-mēl'*, AUGUSTE FRANÇOIS: 1788, Apr. 13—1858, Apr. 10: French physician. He early entered the hospitals of Paris, and published *Essai sur les rheumatismes* (1813); *Eléments de pathologie générale* (1817); and *Traité des fièvres et des maladies pestilentielles* (1821). The last was attacked by Broussais, but the correctness of its doctrine was established. C. succeeded Laennec as prof. of medicine in the Faculty of Paris 1827; his lectures on typhoid

CHONDA—CHONTALES.

fevers, pneumonia, and rheumatism, reported by three of his students (3 vols. 1836), took high rank. His practice in later years was the most lucrative in France.

CHON'DA: town of Gwalior, 18 m. n.w. of the fort of Gwalior; lat. $26^{\circ} 27'$ n., and long. 78° e. It claims notice merely as the scene of a decisive victory gained by Sir Hugh, afterward Lord Gough, over the Mahrattas, 1843, Dec. 29.

CHONDRINE, or CHONDRIN, n. *kōn'drīn* [Gr. *chondros*, cartilage or gristle, a grain]: a substance resembling gelatine (q.v.), produced by the action of hot water on gristle. CHONDRODITE, n. *kōn'drō-dīt*, one of the gems, occurring in grains of various shades of yellow and red. CHONDROL-OGY, n. *-drōlō-jī* [Gr. *logos*, discourse]: a treatise on cartilage.

CHONDRITES, n. plu. *kōn'drits* [L. *chondrus*, a kind of sea-weed]: fossil marine plants resembling the Irish moss of our own shores.

CHONDROPTERY'GII: see CARTILAGINOUS FISHES.

CHONETES, *kōn-ē'tēs*: genus of fossil brachiopodous mollusca, nearly allied to the well-known genus *Productus*. It is characterized by its transversely-oblong shell, and by having the long margin of the ventral valve armed with a series of tubular spines. Twenty-nine species have been described from the Palæozoic formations.

CHONOS ARCHIPELAGO, *chō'nōs*: group of islands off the w. coast of Patagonia, lat. 44° – 46° s., long. 74° – 75° w. With the exception of a few of the most westerly, all are bare and scantily peopled, though several are of considerable extent.

CHONS, *kōns*, or KHONSOU, *kon'sō*: an Egyptian deity worshipped at Thebes as the eldest son of Amen-Ra and Mut, and identified with the moon. In the Thebaid he was called also Neferhotep; the Greeks considered him a form of Hercules. He is represented, like Horus, as young, mummied, wearing a skull-cap surmounted by the lunar disk, holding a crook and whip, and sometimes as hawk-headed. Later he was connected with Thoth, and said to have come from Nu or Han, the celestial waters, or identified with Horus and Sos. In the Ritual he is connected with the Phœnix, and charged with overthrowing the proud. A tablet found in a temple at Karnak enlarges these limited functions by recording his departure in an ark, in the 16th year of Rameses XII., to Bakhtan to expel a demon which possessed the daughter of the king of that country and sister of the queen of Egypt, and his return, escorted by priests, 17 years later. The worship of C. was common at the Ptolemaic period. His figure is found in bronze and porcelain. In the Pantheon he is the youngest of the divine circle, and his chief function that of the lunar gods.

CHONTALES, *chōn-tā'lās*: district of Nicaragua, n.e. of lakes Nicaragua and Managua, s.e. of the dist. of Segovia; which borders on Honduras. It is mainly oc-

CHOOSE—CHOPIN.

cupied by the Alto Grande chain of the Cordilleras Mts., but tropical fruits, as well as those common in the temperate zones, abound, and extensive grassy plains support vast herds of cattle and horses. On the Mica and Bola, branches of the Bluefield river, are gold mines, worked by the early Spanish settlers, and still by the Indians of Libertad and other towns on the mountain slopes. There are also veins of silver, a coal-bed near lake Nicaragua, and much oak, pine, and other timber.

CHOOSE, v. *chōz* [F. *choisir*, to choose—from OF. *coisir*; AS. *cēosan*, to choose: Goth. *kiusan*, or *kausjan*; Dut. or Ger. *kiesen*, to examine, to prove, to test]: to examine with the view of selecting; to take by preference; to have the power to take; to adopt; to follow. **CHOSE**, pt. *chōz*. **CHOOSING**, imp. *chōz'īng*. **CHOOS'ER**, n. one who. **CHOSEN**, pp. *chō'zn*. — **SYN.** of ‘choose’: to prefer; adopt; follow; select; elect.

CHOP, n. *chōp* [old Dut. *koppen*, to cut off: Dut. and Ger. *kappen*, to cut or hew, to chop: Scot. *chap*, to strike; *choppe*, a blow]: a piece cut or struck off; a piece of meat: V. to cut off or separate by the blow, or repeated blows, of a sharp instrument; to cut into small pieces; to mince. **CHOP'PING**, imp. **CHOPPED**, pp. *chōpt*. **CHOP'PER**, n. an instrument for chopping; one who. **CHOP-HOUSE**, a dining-house. **CHOPS**, n. plu. small slices of meat chopped or cut from the loin or joint of mutton. To **CHOP LOGIC**, in *slang*, to wrangle as if with logical terms while mangling them; to talk glibly; to bandy words.

CHOP, n. *chōp*: in *China*, a permit or stamp; quality of goods; quantity. **CHOPSTICK**, n. a Chinese instrument for feeding.

CHOP, v. *chōp* [Dut. *koopen*, to buy: Icel. *kaup*; Scot. *coup*, to buy and sell, to exchange (see CHAP 3)]: to barter; to exchange. **CHOP'PING**, imp. **CHOPPED**, pp. *chōpt*. **CHOP AND CHANGE**, in *OE.*, to put one thing in place of another; to exchange. **THE WIND CHOPS**, the wind changes or veers. To **CHOP**, or **CHAP HANDS**, in *Scot.*, to strike hands to keep them warm; also as in token of the conclusion of a bargain.

CHOP, n. *chōp*, **CHOPS**, n. plu. [AS. *ceaplas*, the chaps or jaws: Wall. *chiffe*, the cheek; *chofe*, smack on the chops: Gael. *gab*; Ir. *gob*, the beak, the mouth (see CHAP 2)]: the sides of the mouth of a river or of a channel; the clasp or jaw. **CHOP-FALLEN**, a. cast down in spirits; dejected. **CHOPS**, n. plu. the jaws.

CHOPIN, n. *chōp'īn*, Scotch, **CHAPPIN** [F. *chopine*, a chopin—from *chope*, a beer-glass: Ger. *schoppen*, a liquid measure]: in *Scot.*, liquid measure equivalent to the English quart.

CHOPIN, *sho-pāng'*, **FRÉDÉRIC**: Polish pianist and musical composer: 1810–1849, Oct. 17; b. Zelazowa-wola, near Warsaw. He studied music at Warsaw under Prof. Joseph Elsner. An exile after the revolution of 1830, he took up his residence in Paris, where he lived admired

CHOPINE—CHORAGUS.

both professionally and in society. His health, always delicate, broke down in 1837, and he went for a time to Majorca, whence he returned, benefited by the change. After again suffering much from illness and depression of spirits, he visited England and Scotland 1848, and in London was welcomed with enthusiasm in public and private. He never recovered from the fatigues of this journey, but died in Paris, and was buried, by his desire, beside Bellini in the cemetery of Père-la-Chaise. His compositions, restricted to pianoforte music, are in high esteem among musicians, and are chiefly preludes, nocturnes, polonaises, mazurkas, and valse, with a few concertos and sonatas. They are pervaded by a sensitive, restless, and highly poetic fancy, and abound in subtle ideas, graceful and original harmonic effects, and rich ornamentation. The so-called polonaises, mazurkas, and valse are not dance music, but dreamy compositions suggestive of the rhythm and character of these dances, in which the peculiarities of Polish national music are blended with French elegance and taste.

CHOPINE, or CHOPPIN, n. *chōp-ēn'* [Sp. *chapin*, a clog with a cork sole]: high clog, or slipper, deriving its name, as is supposed, from the sound *chap, chop*, made by the wearers in walking. Chopines were of eastern origin, but were introduced into England from Venice during the reign of Elizabeth. They were worn by ladies under the shoes, and were usually made of wood covered with leather, often of various colors, and frequently painted and gilded. Some of them were as much as half a yard high; and in Venice, where they were universally worn, their height distinguished the quality of the lady. The C. is mentioned by Shakespeare in *Hamlet*. The accompanying representation of a C. is copied from Douce's *Illustrations of Shakespeare*.



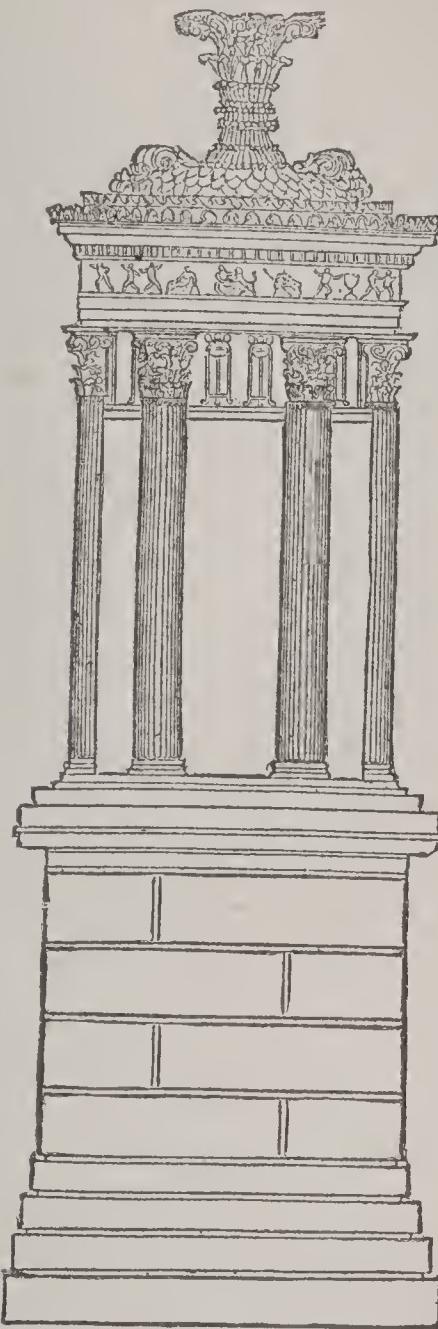
Chopine.

CHOPPIN, SAMUEL PAUL, M.D.: 1828, Sep. 20—1880, May 2; b. West Baton Rouge, La. He graduated at Jefferson College, Philadelphia, 1846, and studied medicine further in New Orleans and Paris. He became resident surgeon of the Charity Hospital of New Orleans and demonstrator of anatomy in the Univ. of La. 1852; was one of the founders of the school of medicine in that city 1856, and of its *Medical News and Hospital Gazette*; was surgeon-in-chief on Gen. Beauregard's staff 1861; and in later years performed brilliant operations in plastic surgery and ovariotomy. As pres. of the La. board of health from its reorganization 1876, he sought vainly to enforce quarantine regulations and prevent the entrance of yellow fever, which he believed to be never indigenous. He died at New Orleans.

CHORAGUS, n. *kō-rā'gūs*, CHORAGI, n. plu. *kō-rā'jī* [L. *chorāgus*; Gr. *chorēgos*, he who had the care of the *chorus* and supplied what was necessary for it—from Gr. *choros*,

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the chorus; *ago*, I lead]: among *anc. Greeks*, one who superintended a musical or theatrical entertainment and instructed the performers; one who paid the expenses of a chorus, or of such an exhibition, and entertained the performers: see CHORUS. CHORAGIC, a. *kōr-ā'jik*, belonging to, or in honor of, a *choragus*, as ‘a choragic monument.’ The *choragus* who, on behalf of his tribe, had supported the chorus (q.v.), and who, in competition with the other



Choragic Monument of Lysicrates in Athens, restored.

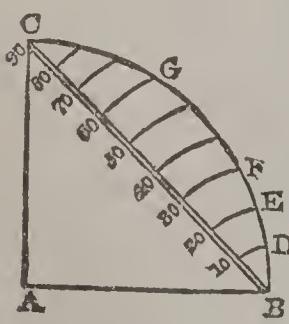
tribes, had exhibited the best musical or theatrical performance, received a tripod for a prize; but he had the expense of consecrating it, and of building the monument on which it was placed. There was at Athens a whole street formed by these monuments, called the ‘Street of the Tripods.’ The figure represents the monument of Lysicrates, popularly known as the ‘Lantern of Demosthenes.’

CHORAL—CHORD.

CHORAL, n. *kōr'äl*, or **CHORALE**, n. *kōr-äl'ě*, **CHORALES**, n. plu. *kōr-äl'ěz* [It. *corale*, belonging to the choir—from *coro*, the choir; F. *choeur*, the choir]: melody to which sacred hymns or psalms are sung in public worship by the whole congregation in public union. The melody of the C. moves in notes of a slow and strictly measured progression, and of a solemn and dignified character that disposes the mind to devotion. Although the term C. is now limited to the music of the Protestant Church, it belongs to the Christian Church at all times, as melodies still in use can be traced with certainty to have been sung by the congregations in the first centuries of Christianity. Among these is the *Te Deum* (q.v.) ascribed to St. Ambrose, still retained in the Lutheran Church, to the words, *Herr Gott, dich loben wir*; and in the Anglican Church (and of late years heard in other churches) to the words, ‘We praise thee, O God.’ The C. is intimately connected with the history of music. It is what the psalm-tune is, or rather what it properly is and formerly was. The pure, simple C. has, in a great degree, been cast aside in the British Isles, and in the United States, and its place occupied by tunes of a comparatively puerile style, which are frequently only adaptations of operatic songs and other profane pieces. In recent years, the choral style is again becoming more usual. **CHORAL**, a. *kō'räl*, of or belonging to the choir: see under **CHOIR**. **CHORAL MUSIC**, the ancient music of the church; music in parts for different voices: see **SACRED MUSIC**. **CHORAL SERVICE**, the musical service of the English Church, celebrated by a full complement of clergymen and choristers in a cathedral church, and when all those parts of the service are sung as ordered in the rubrics.

CHORD, n. *kawrd* [L. *chorda*; Gr. *chordē*, an intestine of which strings are made]: the string of a musical instrument; notes in harmony; a straight line joining the two ends of the arc of a circle: V. to string a musical instrument. **CHORD'ING**, imp. **CHORD'ED**, pp. strung.

CHORD (chord of an arc of a curve): straight line joining the two extremities of the arc. A **SCALE OF CHORDS** is used in laying off angles. It is thus constructed: Let AB be the radius of the circle to which the scale is to be adapted. With centre A and radius AB describe a quadrant BEC. Divide the quadrant arc BEC into nine equal parts BD, DE, etc. This may be done by taking a radius equal to AB, and from the centres B and C cutting the arc in G and F. As the radius is always equal to the chord of 60° or $\frac{2}{3}$ of a quadrant, the arc CB is thus divided into three equal parts, BF, FG, GC, and each of these parts may then be trisected by trial, as no direct method is known. Draw the chord of the quadrant BC; from B as a centre, and the chord of BD as a radius, describe an arc cutting BC at 10. with the chord of BE as



CHORD.

With a radius, describe an arc cutting BC in 20; with the chord of BF, describe an arc cutting BC in 30; and in a similar manner, find the divisions 40, 50, 60, 70, 80. Then the arcs BD, BE, BF, being arcs of 10° , 20° , 30° , etc., respectively, the distances from B to 10, 20, 30, etc., are the chords of arcs of 10° , 20° , 30° , etc.; so that BC is a scale of chords for every 10° , from 0° to 90° . To lay down or measure angles with such a scale, the arc of measurement must be described with the chord of 60° .

CHORD, in Music: simultaneous and harmonious union of different sounds, at first intuitively recognized by the ear, and afterward reduced to a science by the invention of the laws or rules of harmony: see HARMONY. Chords may consist of from two to five parts. Absolute chords of two parts are produced only by thirds or sevenths. Chords of more than two parts are either fundamental chords or inversions of them, and are divided into concords and discords. The union of sounds in all chords will be found, on analysing their component parts, to be an admixture of major and minor thirds. The common chord, or *Trias harmonica perfecta*, is the basis of all harmony, and consists of a base note, or prime, with its third and fifth

above, thus:



These three sounds are at the

distance of a third from each other. When the lowest third is the greater third, as above, the C. is a major cord; but

when the lowest third is the lesser, thus:



the

C. is called a minor chord. A chord of two minor thirds combined is called diminished, as the interval from the lowest note to the highest is less than a perfect fifth,

thus:



The common C. admits of two inver-

sions, according as one or other of its notes is made the base, or lowest note of the C., thus:



Fundamental Chord. 1st inversion. 2d inversion.

By adding another third above the common C., a C. of four parts is produced, which is called the chord of the seventh, because the highest note is a seventh above the bass. When the C. of the seventh is produced on the fifth of the scale, it is then called the dominant seventh, which is the most perfect species of the C. It then consists of a major third, perfect fifth, and seventh, the minor, which is the next harmonic produced by nature above the fifth.

CHOREA—CHOREPISCOPI.

The C. of the seventh may be formed also on any of the notes of the major or minor scale taken as a bass note, which produces the varieties of major, minor, and diminished sevenths, thus:



Dominant 7th. Major 7th. Minor 7th. Diminished 7th.

The C. of the seventh admits of three inversions, according as the notes above the fundamental note are used as bass notes. From its nature, it requires a resolution, and is therefore always followed by a common C. whose fundamental bass is a fifth below that of the seventh. For the C. of the ninth, see HARMONY. The first proper arranged system of chords is by Rameau, 1720, which has from time to time been extended and improved by Marpurg, Kirenberger, G. Weber, F. Schneider, Marx, and the late Professor S. W. Dehn, of Berlin.

CHOREA, n. *kō-rē'ā* [Gr. *choreia*, a dance]: disease popularly called St. Vitus's Dance, consisting of a tendency to involuntary and irregular muscular contractions of the limbs and face, the mind and the functions of the brain generally being quite unaffected. The spasms of C. differ from those of most other convulsive affections in being unaccompanied either by pain or by rigidity; being, in fact, momentary jerking movements, indicating rather a want of control of the will over the muscles, than any real excess of their contractions. In some cases, the disease resembles merely an exaggeration of the restlessness and 'fidgetiness' common among children; in others, it goes so far as to be a very serious malady, and may even threaten life. Fatal cases, however, are very rare, and in the large majority of instances the disease yields readily to treatment carefully pursued, or disappears spontaneously as the patient grows up. C. is a disease much more common among children of six years old, and upward, than at any other period of life: it is more common also among female children than among males. The treatment generally is the use of metallic tonics, such as zinc, copper, iron, and arsenic (the last, perhaps, the best), sometimes preceded or accompanied by purgatives. Exercise in the open air is also recommended; and gymnastics afford material aid in the cure. It is to be observed that the name St. Vitus's Dance (Dance of St. Weit) was applied originally in Germany to a different form of disease from that above referred to—one closely approaching in its characters the epidemic 'dancing mania,' which, in Italy, was called Tarantism (q.v.).

CHOREPISCOPAL, a. *kō'rē-piš'kō-păl* [Gr. *chora*, place, country; *epis'kopos*, bishop]: relating to a local or suffragan bishop.

CHOREPISCOPI, *kō-rē-piš'ko-pī*: suffragan or subordinate bishops in the ancient church, having local and rural

CHORIAMBUS—CHORLEY.

Jurisdiction under the bishops of the cities to which their districts were attached. They could confirm, consecrate churches, and appoint readers and subdeacons; but could not ordain without license from their superiors, administer diocesan affairs, or meddle with city parishes. Originally intended to facilitate missionary work in the country (i.e., *heathen* or *pagan*) parts, this office was so magnified by some of its occupants that it became a nuisance after the political establishment of the church. The council of Laodicea attacked it 360, and it had disappeared in the East before 500. In the West it was mainly suppressed by the 10th c., but lingered in some places till the 13th. It was nominally revived in England 1534, and really about 1870, by the creation of suffragan bishops of Dover, Bedford, Nottingham, and Colchester, under the Abp. of Canterbury and the bps. of London, Lincoln, and St. Alban's.

CHORIAMBUS. n. *kō'rī-ām'būs* [Gr. *koreios*, a trochee; *iambos*, an iambus]: a poetic foot consisting of four syllables—the first and fourth long, the second and third short; a trochee and an iambus united. **CHO'RIAM'BIC**, a. -*bīk*, pertaining to.

CHORION, n. *kō'rī-ōn* [Gr. *chorion*, skin]: the exterior membrane investing the foetus in the womb; in bot., a fluid pulp composing the nucleus of the ovule in its earliest stage. **CHO'ROID**, n. -*royd* [Gr. *eidos*, form]: a membrane resembling the chorion; the vascular membrane or coat of the eye (q.v.).

CHORISIS, n. *kōr'i-sis* [Gr. *chōrizo*, I separate]: in bot., separation of a lamina from one part of an organ so as to form a scale or a doubling of the organ; also called *deduplication*.

CHORLEY, *chawr'lē*: town in Lancashire, England, on a hill on the Chor, 9 m. s.s.e. of Preston. It has an ancient parish church, supposed of Norman origin; and manufactures of cotton-yarn, jaconets, muslins, fancy goods, calicoes, and ginghams. In the vicinity are several coal-mines, a lead-mine, besides mines and quarries of iron, alum, slates, millstones, etc. Pop. (1891) 23,082.

CHORLEY, *chawr'lē*, HENRY FOTHERGILL: 1808, Dec. 15—1872, Feb. 16; b. near Billinge, Lancashire, England. musical critic and author. He early forsook business in Liverpool for literature in London, and after the usual difficulties became musical editor of the *Athenæum*. This post he held 35 years. His vigorous advocacy opened the way for the production in London of Gounod's *Faust*. C. wrote many songs, the librettos of sundry operas, a few works of fiction, *Conti the Discarded and other Tales* (1835); *Sketches of a Seaport Town* (1835); *Lion, a Tale of the Coteries* (1839); and *Pomfret* (1845); each in three vols.; *Memorials of Mrs. Hemans* (2 vols., 1836); *Religion and Morals of Genius*; and in the sphere wherein he was most successful, *Music and Manners in France and North Germany* (3 vols., 1841); *Modern German Music* (2 vols., 1854); and *Thirty Years' Musical Recollections* (2 vols., 1862). He died in London,

CHOROGRAPHY—CHORUS.

His *Autobiography*, *Memoirs*, and *Letters* were edited by H. G. Hewlett (2 vols., 1873).

CHOROGRAPHY, n. *kō-rōg'rā-fī* [Gr. *chōros*, a place or country; *graphē*, a writing]: the description of a region or country with a map of it. CHOROGRAPHER, n. *-rā-fer*, one who describes a particular region or district and makes a map of it. Note.—*Topography* enters into minute details; *geography* refers to the whole earth, or a part of it in relation to the whole.

CHOROID, n.: see under CHORION.

CHOROSIS: a wrong spelling of CHORISIS.

CHORUS [see CHOIR]: among the ancients, a band of singers and dancers employed on festive occasions of great pomp, also in the performance of tragedy and comedy on the stage. In the time of the Attic tragedy, the C. consisted of a group of persons, male and female, who remained on the stage during the whole performance as spectators, or rather as witnesses. When a pause took place in the acting, the C. either sang or spoke verses having reference to the subject represented, which served to increase the impression produced by the performers. At times the C. seemed to take part with or against the persons in the drama, by advice, comfort, exhortation, or dissuasion. In early times, the C. was very large, sometimes consisting of upward of 50 persons, but afterward it was much reduced. Its leader was termed the *coryphæus*. The charge of organizing it was considered a great honor among the citizens of Athens. The person appointed for this purpose was called the *choragus* (q.v.) The honor was very expensive, as the *choragus* had to pay all the expenses incurred in training the members of the C. to perform their parts efficiently. They were, beside, fed and lodged by him during training-time, and he had also to provide for them masks and dresses. At times, the C. was divided, and spoke or sang antiphonally. These divisions moved from side to side of the stage, from which movement originated the naming of the single songs or stanzas, such as *strophe*, *antistrophe*, and *epode*. How the musical element of the ancient C. was constituted or composed, is not known with certainty. Possibly, it was only a kind of rhythmical declamation, and doubtless very simple. It was accompanied by flutes in unison. With the decline of the ancient tragedy, the C. also fell into disuse; and only lately has there been an attempt to produce the same on the stage in the manner of the ancients, as, for example, in Schiller's *Bride of Messina*. The music which has been set in modern times to some of the Greek tragedies, does not give the least idea of the original music.

In modern times, by C. is understood the union of singers or musicians for the joint performance of a musical work.

C. is the name also of a musical composition for numerous voices, either with or without accompaniment, and intended to express the united feelings of a multitude. The musical C. is the only artistic means by which a simultane-

CHOSE.

ous movement or sentiment of a multitude can be represented in the drama, the language or text being always of a simple rhythm, permitting only of a limited movement suited to the combination of a multitude. It is, however, not always necessary that every part of the C. should manifest the same feeling or sentiment. Two or more parts of the C. may act against each other, as suits the purport of the drama. Double, triple, and quadruple choruses are found in the old Italian compositions for the church. In modern times, the C. is much used, and with great effect, in operas, especially those of Meyerbeer and Wagner. In the oratorio, the C. is of the greatest importance, and the numbers now employed to sing the C. far exceed anything attempted a century ago; but this is not always an advantage, for the *tempi* must necessarily be taken much more slowly, which has a sluggish effect; while increase in the mere number of voices does not always produce a greater power of sound. The C. of 35 well-trained voices from the pope's chapel, who sang at the coronation of Napoleon I., in the cathedral of Notre Dame, Paris, produced a far greater and more wonderful effect when they entered singing the *Tu es Petrus*, than another C. of hundreds of voices, and 80 harps, that had been assembled and trained for the same occasion, in expectation of surpassing all that man could imagine. The greater the number, the greater is the difficulty in obtaining unity.

C., in organ-building, is the name given to stops of the mixture species, some of which contain 2, 3, 4, 5, 6, or more pipes to each note, tuned at consonant intervals in relation to the fundamental stops.

CHOSE, n. *shōz* [F. *chose*, a thing—from mid. L. *causa*, a cause, a thing: It. *cosa*]: in law, a thing; a matter; movable property; a fixture on a property; in the law of England, that kind of property which consists not in possession of a thing, but in the legal right to possess it. As this right can, in general, be vindicated and made available only by means of an action, the property to which it relates, whether real or personal, is called a thing (*res* or *chose*) in action, to distinguish it from a thing already in possession. Money due upon bonds and bills, goods bought and not yet delivered, are examples of choses in action, as is also the right to compensation for damage occasioned by breach of contract. In England, 'by the strict rule of the ancient common law, no chose in action could be assigned or granted over, because it was thought to be a great encouragement to litigiousness, if a man were allowed to make over to a stranger his right of going to law. [See CHAMPERTY.] But this nicety is now not so far regarded as to render such a transaction really ineffectual. It is, on the contrary, in substance, a valid and constant practice; though, in compliance with the ancient principle, the form of assigning a chose in action is in the nature of a declaration of trust, and an agreement to permit the assignee to make use of the name of the assigner, in order to recover possession. . . . The king is an exception to this general rule, for he might always either

CHOSEN—CHOUANS.

grant or receive a chose in action by assignment; and our courts of *equity*, making the rule itself give way to the expediency, in a commercial point of view, of facilitating the transfer of property, allow the assignment of a chose in action as freely and directly as the *law* does that of a chose in possession.'—Stephen's *Commentaries*, ii. p. 45. One would imagine that the more convenient and philosophical arrangement would be, by the interposition of the legislature, to make law conform at once to equity and expediency. This change has been made in many states of the Union, so that an assigner of a C. in A. has now the right to sue in his own name, as though he were a king in England: such an assigner must meet all defenses which might have been interposed to an action brought by the original owner.

CHOSEN and **CHOSE**: see under **CHOOSE**.

CHOSROES: see **KHOSRU**.

CHOTA NAGPORE, *chōtā nág'pōr*, or **CHUTIA NAGPUR**, or **NAGPORE THE LESS**: one of the lower provinces of Bengal, containing five British collectorates; besides seven tributary minor states, forming the s.w. frontier agency. Area of the British divisions, 26,966 sq. m.; of the remainder, abt. 17,000 m. more. The inhabitants are chiefly aboriginal tribes little removed from barbarians. The country is for the most part wild and hilly, consisting of an undulating plateau 3,000 ft. above the sea. Its chief products are coal, jute, tea, and indigo; iron also is found. From the elevation of the tract, the temperature varies considerably, ranging in winter from 32° to 62°, and in summer from 78° to 98°. Pop. (1881) 4,225,989 ; (1891) 4,-645,590. (1901) 4,900,429.

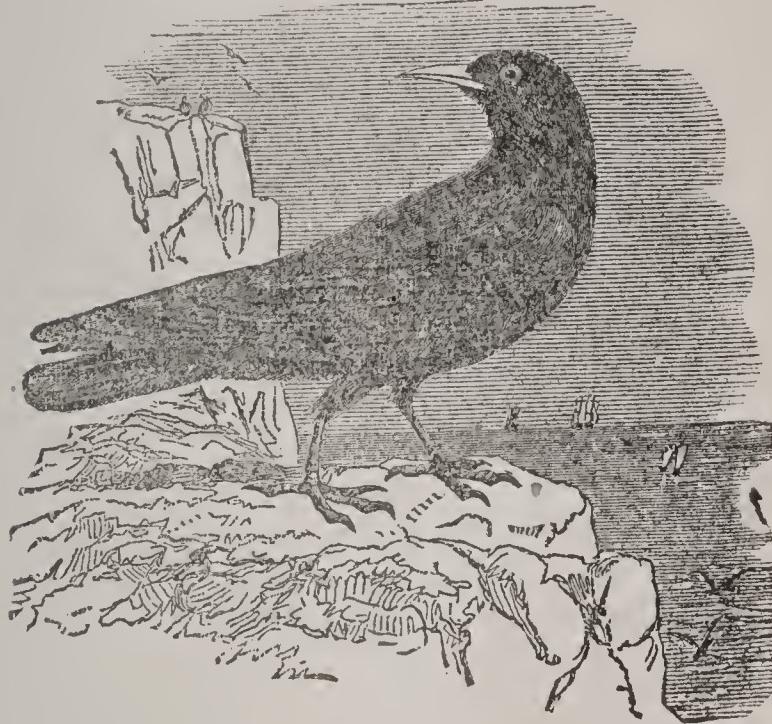
CHOTYN, *chō-tēn'*, or **KHOTIN**, *chō-tēn'*, or **CHOCZIM**, *cho'-chim*: town of Bessarabia, on the s.w. frontier of Russia, on the right bank of the Dniester, 110 m. n.n.w. of Jassy, abt. 20 m. s.w. of Kamienic. Its position made it long a bone of contention; it was fortified for the Turks by French engineers, 1718; taken by the Poles or Russians, 1730, '69, '88; and ceded to Russia, 1812. It is still a military post, with some trade in army supplies. Pop. abt. 21,000.

CHOUANS, *shō-ōng'*: bands of insurgent Royalists, who, during the French Revolution, organized a reactionary movement in Brittany. They obtained their name from their leader, Jean Cottreau. This person, who had been a smuggler, went by the name of Chouan—a corruption, it is said, of *chat-huant* ('screech-owl')—because, while he and his accomplices were engaged in their nocturnal work, they were wont to be warned of their danger by some one on the watch imitating the cry of this bird. At the period of the revolt, however, he followed the humble occupation of a clog-maker. The first indications of an anti-revolutionary spirit in Brittany manifested themselves in the beginning of 1791, when several trees of liberty were destroyed at night, and other more serious outrages committed. These disturbances were fomented by seditious priests. In 1792, an insurrection was planned by the

CHOUGH.

Marquis de la Rouarie, with the sanction and approval of the two brothers of Louis XVI. The agents of the marquis entered into communications with Jean Cottereau—well known for the reckless audacity of his character—and other smugglers; but they were arrested, and the carrying out of the insurrection devolved upon the latter. The *Chouannerie*, as the insurrection was called, at first disgraced itself, both by drunken license and by cruelty. After several successful exploits of the guerrilla sort, Jean Cottereau perished in an engagement, 1794, Jul. 28, near the wood of Misdon, the theatre of his first efforts. Before this, however, other and more illustrious leaders had appeared in Brittany to direct the movement, chief of whom were Georges Cadoudal (q.v.) and Charette. Through their endeavors it was more widely extended, and for a time seemed to imperil the security of France, but was suppressed toward the close of 1799. Petty spurts of insurrection, however, broke out till about 1803, when the *Chouannerie* ceased for awhile. In 1814–5, it again made its appearance on both banks of the Loire; and after the July revolution, was once more excited by the Duchess of Berry on behalf of the Duke of Bordeaux, but crushed by the energetic measures of M. Thiers.

CHOUGH, n. *chūf* [AS. *ceó*; Dut. *kauwe*; Dan. *kaa*; F. *choucas*; Sp. *chova*], (*Fregilus*): genus of birds of the crow family (*Corvidæ*), but approaching to the characters and appearance of the starlings (*Sturnidae*). The length of the bill has induced some naturalists, among whom was



Chough.

Cuvier, to place them beside the hoopoes, but this is now generally regarded as an error; they agree with crows in having their nostrils covered with stiff bristles directed forward, and in their habits. The beak is longer than the

CHOULES—CHOUTEAU.

head, strong, arched, and pointed, and of reddish color. The tail is slightly rounded. The only European species is the common C., called sometimes the Cornish C., or red-legged crow (*F. graculus*), a widely distributed but very local bird, inhabiting the Swiss Alps, the high mountains of Spain, of Greece, of India, and of Persia, the s. of Siberia, the n. of Africa, and parts of the British sea-coasts; but almost exclusively confined to situations where there are high cliffs. In these it usually makes its nest; sometimes, however, in ruined towers. Its long hooked claws enable it to cling easily to a rough rock, but it seems unwilling even to set its feet on turf. It lives in societies like the rook. It feeds on insects, berries, grubs, and grain. It is easily tamed, becomes very familiar and forward, and exhibits in the highest degree the curiosity, the pilfering disposition, and the delight in brilliant or glittering objects, which characterize others of the crow family.—Other species of C. are known, natives of Australia, Java, etc. Some naturalists unite the chocards and the choughs into one genus.

CHOULES, *chōlz*, JOHN OVERTON, D.D.: 1801, Feb. 5 —1856, Jan. 5; b. Bristol, England. He studied theol. in the Bapt. College at Bristol, came to America 1824, taught at Red Hook, N. Y., 1825–27, and was ordained pastor of the Second Bapt. Church at Newport, 1827, Sep. He held similar charges at New Bedford, Mass., 1833–37; Buffalo, 1837–41; New York, 1841–43; Jamaica Plain near Boston, 1843–47, and again at Newport from 1847. During most of this time he had pupils; he was successful as a teacher, gifted socially, and intimate with Webster and other eminent men. He edited Neal's *History of the Puritans* and other books, completed Smith's *History of Missions* (2 vols., N. Y., 1832) and Hinton's *History of the United States* (2 vols., 1853), and wrote *Young Americans Abroad* (1852) and *Cruise of the Steam Yacht North Star* (1854), on which he had accompanied Cornelius Vanderbilt to Europe. He died in New York.

CHOUSE, v. *chows* [Turk. *chiaous*, or *chiaus*, an interpreter—from one of them in 1609 attached to the Turkish embassy in England swindling the Turkish merchants out of £4,000]: to cheat; to defraud; to swindle: N. a cheat; one cheated. CHOUS'ING, imp. CHOUSED, pp. *chowzd*.

CHOUTEAU, *shō-tō'*, AUGUSTE: 1739–1829, Feb. 24; b. New Orleans: founder of St. Louis. The director-gen. of La. commissioned Laclède to establish the fur trade in the region w. of the Mississippi. C. joined the expedition and was placed in command of the boat. Leaving New Orleans 1763, Aug., he reached St. Genevieve in Nov., and went 61 m. farther, selecting for the chief trading-station a point which he named St. Louis. Here operations were begun under his charge 1764, Feb. 15, and here he remained during his long life.

CHOUTEAU, PIERRE: 1749–1849, July 9; b. New Orleans. As a boy he accompanied his brother Auguste up the Mississippi and was associated in his subsequent

CHOUTEAU—CHRESTOMATHY.

activities, outliving him 20 years. Their name, wrote Nicollet 1842, ‘is still a passport that commands safety and hospitality among all the Indian nations north and west.’

CHOUTEAU, PIERRE, JR.: 1789, Jan. 19—1865, Sep. 8; b. St. Louis: son of Pierre C. At the age of 15 he was a clerk for his uncle and father, but soon began business for himself. About 1806 he visited Dubuque in canoes, to trade with the Sacs and Foxes. Later he followed the Indians in their migrations to the sites of Kansas City, St. Joseph, and Council Bluffs, and even to the mouth of the Yellowstone and Fort Benton, as well as up the Mississippi to St. Paul. He and others purchased, 1834, the interest of John Jacob Astor in the American Fur Co.: the company established under his name, 1839, controlled the fur trade east of the Rocky Mts., and reached s.w. to Santa Fé, and n. to the Falls of St. Anthony. C. helped frame the first constitution of Mo. 1819. He lived long in New York, looking after his immense business interests, but died in St. Louis.

CHOW-CHOW, n. *chow-chow*: a Chinese sweetmeat; a kind of mixed pickles.

CHOWDER, n. *chow'dér* [F. *chaudière*, a mess, a potful: comp. Scot. *chow*, or *chaw*, a mouthful for chewing]: fresh fish boiled with biscuit, pork, onions, etc.; applied to any mixed savory stew: V. to make a chowder of.

CHOWKEYDAR, n. *chowk-i-dár'* [Hind. *chaukidár*, a watchman—from *chauk*, a police-office]: in India, a watchman of house property or of land.

CHOWS, n. *chouz*, or **CHEWS**, n. *chóz* [OF. *chou*, general name for coal]: in Scot., coals of medium size, as distinct from *dross* and large.

CHOYA: see CHAY Root.

CHRESTIEN (or CHRETIEN) DE TROYES, *krā-teāng' déh trwá'*: b. at Troyes in Champagne, 11th c. :French poet. He is supposed to have been attached to the court of Philip of Alsace, Count of Flanders (1168–91); but nothing is known of his life, though he was highly esteemed in his own age and for some time afterward. He wrote *Irec et Énide*, *Clizés*, or *Cliget*, *Le Chevalier au Lion*, *Guillaume d'Angleterre*, *Le Chevalier de la Charette*, and *Perceval le Gallois*. These give C. the highest rank among early French romancers; four of them have been printed. At least two deal with the Arthurian legends, and the first supplied material to Lord Tennyson. Two others, *Tristan* and *Le Chevalier de l'Epée*, are lost. C. also wrote songs and imitations of Ovid: many other romances are doubtfully attributed to him.

CHRESTOMATHY, *krēs-tōm'a-thī* [lit., that which is useful to learn]: book of extracts with notes, to assist in acquiring a language. The practice of thus collecting marked passages seems to have begun with the Greeks. The term is especially, but not exclusively, applied to works in the Hebrew language.

CHRISM—CHRIST.

CHRISM, n. *krizz* [OF. *chresme*, the sacred oil—from Gr. *chrisma*, ointment: F. *chrisme* consecrated oil]: consecrated oil; unction: name given to the oil consecrated on Holy Thursday, in the Rom. Cath. and Greek Churches, by the bishop, and used in baptism, confirmation, orders, and extreme unction. There are two kinds of C.—the one, a mixture of oil and balsam, is used in baptism, confirmation, and orders; the other, merely plain oil, is used in extreme unction. CHRISMAL, a. *kriz'mul*, pertaining to chrism. CHRIS'MATORY, n. -mă-tér-ī, a vessel for chrism. CHRISOM, or CHRISOME, n. *kriz'üm*, white vesture laid by the priest on the child in former times at baptism, to signify its innocence. It was generally presented by the mother as an offering to the church, but if the child died before the mother was ‘churched’ again, it was used as a shroud. By a common abuse of words C. came to be applied to the child itself. A C. child is a child in a C. cloth. As late as Jeremy Taylor (*Holy Dying*, c. i., s. 2), we have the following: ‘Every morning creeps out of a dark cloud, leaving behind it an ignorance and silence deep as midnight, and undiscerned as are the phantasms that make a chrisome child to smile.’ CHRISMA'TION, n. -mă'shün, the act of applying the chrism or consecrated oil.

CHRIST, n. *kr̄st* [Gr. *christos*, anointed]: the Anointed; the Messiah. CHRISTEN, v. *kr̄s'n* [lit., to make a Christian]: to baptize and name in the name of the Father, Son, and Holy Spirit. CHRISTENING, imp. *kr̄st'ning*: N. the act of baptizing and naming; initiation into the Christian religion; a term often used as equivalent to baptism (q.v.). It is disliked by some, as favoring the doctrine of baptismal regeneration; being, if taken literally, expressive of the notion that a person is *made a Christian* in baptism. But, like many other terms, it is frequently used without any doctrinal reference. CHRISTENED, pp. *kr̄s'nd*. CHRISTENDOM, *kr̄s'n-dōm*, the countries inhabited by those professing to believe in the Christian religion. CHRISTIAN, n. *kr̄st'yän* [AS. *cristen*, a Christian — from *cristen*, Christ: L. *christianus*, a Christian]: a disciple of Christ; a believer in Christ. ADJ. pertaining to Christ, his doctrines, or his church. CHRISTIANITY, *kr̄st'yän-i-t̄i*, or *kr̄s-ti-än'i-t̄i*, the religion of Christians, its doctrines and precepts. CHRISTIANIZE, v. *kr̄st'yän-iz*, to convert to Christianity. CHRISTIANIZING, imp. CHRISTIANIZED, pp. -izd. CHRISTIANIZATION, n. -i-zā'shün, the act of converting to Christianity. CHRISTIANISM, n. *kr̄st'yän-izm*, a word used in contradistinction to Christianity to denote outward or affected Christianity; the state of being wholly destitute of the living power of the Christian’s faith. CHRISTLESS, a. without the true knowledge or spirit of Christ. CHRISTOLOGY, n. *kr̄s-tōl'ō-ji* [*Christ*, and Gr. *logos*, a discourse]: a discourse or treatise on Christ.

CHRIST, THE: title of our Savior (see JESUS), now in general use almost as a name or as part of his name. It corresponds exactly in meaning and use with the Hebrew word MESSIAH (q.v.); so that this title given to Jesus of

CHRIST.

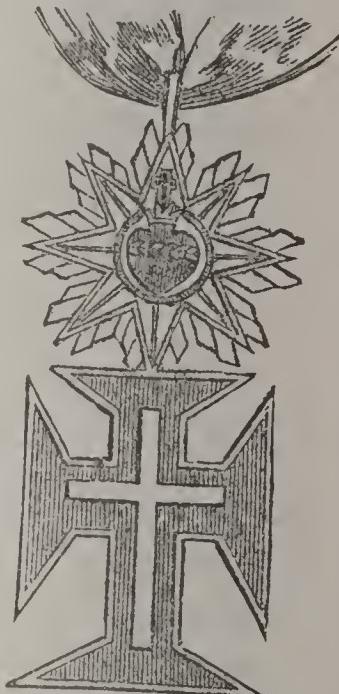
Nazareth, is an acknowledgment of him as the Divine Savior long promised to the house of Jacob and to the human race. As prophets, priests, and kings were anointed on being called to their several offices (1 Kings i. 34, 39; 1 Sam. xvi. 13; Exod. xxix. 7), so the Savior was anointed as at once prophet, priest, and king; the Holy Spirit, often represented under this figure, being poured forth from the Father without measure upon him to qualify his human nature for all that belonged to his mediatorial office and work.

The whole system of Christianity depends on the doctrine of the PERSON OF CHRIST; not on the accurate adjustment of that doctrine in a scheme of universal philosophy or psychology, to which adjustment nothing more than an approximation is possible to the human mind; but on the adequate presentation of the *fact* of the union of God and man in Christ's Person. An essential difference necessarily exists on almost every point between the systems of doctrine maintained by those who do and by those who do not acknowledge the fact of this union. Some of the early heretics maintained an opinion, which has long ceased to have any supporters, that the body of C. was not a real body, but a mere visionary appearance: see *DOCETÆ* and *Gnostics*. The opposite extreme is that of Socinians, by whom C. is regarded as a mere man; while Arians (q.v.) regard him as in his *pre-existence*—i.e., before his *incarnation*—the highest of all created beings. Against these views, the doctrine which has been generally received in the church accords with the definition set forth by the council of Chalcedon (q.v.) that Christ is ‘God and man in two distinct natures and one person.’ This doctrine, of course, bears intimate relation to that of the TRINITY (q.v.) which, if reduced to its strictly biblical terms, is the doctrine of the *Father and the Son and the Holy Spirit—one God*. (For a general view of this subject, see Prof. Schaff's art. ‘Christology,’ in *Schaff-Herzog Encyc. of Relig. Knowledge*.) The proof of the whole doctrine of Christ's Person may almost be said to consist in a proof of the proper *divinity* of C., his real *humanity*, although equally important, being no longer disputed. And this proof is found, not so much in particular texts which directly assert the divinity of C.—although such texts are important—as in the multitude of texts which imply it, and admit of no reasonable or natural explanation apart from it; and in showing that certain doctrines are most plainly taught in Scripture which cannot be maintained without this.

The ancient Apollinarians, Eutychians, Monophysites, etc., regarded C. as having only one nature—a *compound* of the divine and human; but such a notion as that C. had only a human *body*, the divine nature supplying the place of a soul is held to be subversive of the whole Christian system; and his human nature, to be real, must be viewed as consisting both of a true body and a true soul. His human nature never existed, however, apart from his divine nature, and was ‘conceived by the power of the Holy Ghost.’

Closely connected with this subject is that of the *humiliation* and consequent *exaltation* of C., in his character of mediator between God and man; a subject, to the former branch of which belongs the whole doctrine of the *work* of C. for the redemption of sinners, including the great doctrine of ATONEMENT (q.v.). To the latter belongs the doctrine of the reward of his work, in his exaltation as the divinely human Son of God at the right hand of the Father; and having all things put under his feet; exercising dominion as king not only in his church, but over all things for the advancement of the salvation of his church, and of every member of it, and for the bringing in of a universal righteousness; while also he sends forth the Holy Spirit to apply to men the blessings which, as the reward of his work, he has mediatoriall obtained for them; and still continuing to act as a priest, makes continual INTERCESSION (q.v.), founded upon his work and sacrifice: see CHRISTOLOGY.

CHRIST, ORDER OF, IN PORTUGAL: order of the Templars as revived in Portugal, 1317. When the Templars were expelled from France, and their property confiscated by Philippe le Bel, with the sanction of Pope Clement V., they were received into Portugal, and their order revived, under the title of 'the Order of our Lord Jesus Christ.' With some difficulty Pope John XXII. was induced to sanction the new order. The knights of the order of Christ joined the Portuguese in all their crusades against the infidel, and also in their African and Indian expeditions, receiving in compensation continual additions to their own possessions. The grand prior of the order was invested by Pope Calixtus III. with power equal to that of a bishop; and, as an encouragement to adventure, the knights were promised all the countries which they might discover, to be held under the protection of Portugal. At length, their wealth and power excited the jealousy of the kings of Portugal; their future acquisitions, and, subsequently, even their actual possessions, were declared to be crown possessions, and the offices of administrator and grand-master were transferred to the crown. A fine cloister belonging to the order is still seen at Tomar, to which place the seat of the order was transferred from Castro-Marino 1366. Noble descent, and three years' military service against the infidel, were required for admission. The members took the three monkish vows of chastity, poverty, and obedience, till the pope released them from the first two, on condition of their applying the third part of their revenues to the support of Tomar cloister, the priests of which were bound by the

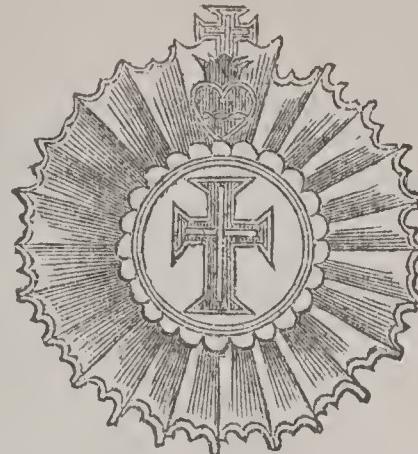


Badge of the Portuguese Order of Christ.

CHRIST.

three vows. This cloister is now a theological institution for the instruction of the priests of the order.

It is said that the order still possesses 26 villages and farms, and 434 prebends. It is very numerous—consisting



Star of the Portuguese Order of Christ.

of six knights of the Grand Cross, 450 commanders, and an unlimited number of knights. Rom. Catholics of noble descent alone are admitted, and foreigners are excluded from participation in the revenues, being in return exempted from its rules. The star and badge of a Knight Grand Cross are represented in the illustration.

CHRIST, The PAPAL ORDER OF: branch of the Portuguese order, created by Pope John XXII. It has only one class. The decoration and star are represented in the illustration.



Badge of the Papal Order of Christ.

CHRIST, PICTURES OF: symbolical or pseudo-historical portraits of the Savior. To represent the form and countenance of C. in a manner that shall even approximate the ideal latent in the minds of men, is unquestionably the most sublime and the most difficult work which an artist can undertake. It is the highest pictorial effort of the creative faculty. From a very early period in the history of the church we can trace the growth of the endeavor. At first, indeed, the horror entertained for the idols of the pagans must have inspired Christians with an aversion to images or pictures of the Savior. Gradually, however, as paganism disappeared and time removed C. further from his people, this feeling would subside, and the longing would arise to possess some representation of him on which the eye might rest with pious delight. When Christian art originated is not precisely known; it is usually dated from the time of Constantine. Nevertheless—as Lord Lindsay remarks, in his *Sketches of the History of Christian Art* (Lond. 1847)—‘it would be more

CHRIST.

correct to say that it then first emerged above ground; its earliest efforts must be sought for in the catacombs.' In these subterranean excavations, forming a maze of unknown extent and labyrinthine intricacy, to which the Roman Christians had recourse in the days of persecution, are found the first traces of Christian sculpture and painting. The *sarcophagi* of the martyrs and confessors, of the heroes and heroines, of the bishops, and, in general, of those of higher mark and renown, were painted over with the symbols and devices of Christianity. The parables were the chief source from which these sepulchral artists drew



Supposed earliest Picture of Christ:
From a Ceiling in the Catacombs of St. Calixtus at Rome.

their symbols. Christ is painted as the good shepherd in the midst of his flock, or, with 'pastoral pipe,' seeking the lost sheep, or returning with it on his shoulders. Sometimes he figures as an ideal youth in the bloom of his years, sometimes as a bearded man in the prime of life, sometimes as Orpheus, surrounded by wild beasts enrapt by the melody of his lyre. Such pictures, however, were only *symbolical*, and did not satisfy the religious craving for a *portrait*. The age of Constantine marks the transition from the symbolical to the *pseudo-historical* picture. At this period Christ is represented in the midst of his disciples, or in the act of performing a miracle; but it is not till about the close of the 4th c. that that type of countenance is actually encountered, which, with certain modifications, continued to rule the conceptions of artists during the whole of the middle ages. To vindicate this type, myths, at a later period, sprang into existence; and we read of a portrait of C. possessed by King Abgarus of Edessa, and imprinted on a handkerchief, and of another miraculously obtained by St. Veronica at the crucifixion; but there is as little foundation for these legends as for that

CHRISTCHURCH—CHRIST-CHURCH.

which attributes to the evangelist Luke such a picture. The emperor Alexander Severus (230) is said to have possessed in his palace an image of Christ. An antique mosaic, probably of the 3d c., which exists in the *Museo Christiano* of the Vatican—where are also some specimens of the frescoes of the catacombs—gives an idea of the manner in which the heathen artists expressed their notion of Christ. He is depicted as a bearded philosopher in profile. A letter which Lentulus, the predecessor of Pilate, is declared to have written to the Roman senate, but which is evidently apocryphal, attributes to Christ a figure and countenance of manly beauty. Toward the middle of the 8th c., John of Damascus gives a description which he pretends to have gathered from more ancient authors. According to him Christ was tall, had beautiful eyes, but the eyebrows meeting; a regular nose, flowing locks, a black beard, and a sandy or straw-colored complexion, like his mother. Among the most ancient representations of Christ which profess to be portraits are the two paintings in the Calixtine and Pontine catacombs near Rome, and which are given in Arighi's *Roma Subterranea Nova*. The Savior is there represented with an oval visage, a straight nose, arched eyebrows, and high forehead. The expression is earnest and mild; the hair is parted on the forehead and falls over the shoulders in waving locks; the beard is short and scattered. These two busts agree with the apocryphal letter of Lentulus, and the artist or artists who executed them may possibly have employed it as a model. The majority of the Byzantine and Italian painters, till the time of Michael Angelo and Raphael, adhered to this type.

CHRISTCHURCH, *krist'cherch*: parliamentary and municipal borough and seaport on the English Channel in Hampshire, at the head of the estuary formed by the Avon and Stour, 24 m. s.w. of Southampton. Its bay has a double tide every 12 hours. C. has manufactures of fusee chains for clocks and watches, and of hosiery. It has also a salmon-fishery. It returns one member to parliament. The priory church, one of the most interesting and magnificent of English ecclesiastical structures, dates from the reign of William Rufus, and was restored, 1861. The borough comprises two favorite watering-places, Mudeford and Bournemouth. There are traces here of a Roman temple to Mars. Pop. of bor. 53,300.

CHRISTCHURCH: capital of the province of Canterbury, New Zealand, on the river Avon, about 8 m. from the sea. Its port is Littleton, with which it is connected by a railway, and it has n. and s. railway communication. It is the centre of a great grazing district, and has also flourishing manufactories. There is a large export trade, chiefly in timber and wool. The city possesses numerous fine public buildings, churches, theatre, etc. Pop. (1901) 17,538, with suburbs, 57,041.

CHRIST-CHURCH, THE CATHEDRAL OF (Oxford) a great society which has had three distinct foundations. In 1526 Cardinal Wolsey obtained from Clement VII. a

CHRIST CROSS ROW—CHRISTIAN II.

bull for the suppression of 22 monasteries, the site of one of which he selected as the site of a new college, to be called Cardinal College, and which he intended to endow on a scale of magnificence beyond that of any other foundation in Oxford. On the fall of Wolsey, 1529, the whole establishment came into the hands of King Henry VIII. In 1532 that prince re-founded it under the name of King Henry VIII.'s College, and in 1546 he once more re-established the college under the name of 'Christ-Church Cathedral in Oxford, or the foundation of King Henry VIII., with a dean and eight canons, 60 students, 40 schoolboys, clerks, choristers,' etc. This foundation is now subsisting, though it has undergone considerable modifications. To none of the canonries were any duties assigned by King Henry VIII. From time to time, however, the canonries have been annexed to various university professorships, more particularly one to the professorship of divinity, by King James I.; one to the professorship of Hebrew by King Charles I.; and one to the professorships of ecclesiastical history and pastoral theology, respectively, by Queen Victoria.

Several changes were introduced by the commissioners appointed under 17 and 18 Vict. c. 81. There is now only one sinecure-enjoying canon. When he is removed from the list no one may hold a canonry save a professor, the archdeacon, or the sub-dean. The studentships are now 80 in number, and are, as before, divided into junior and senior studentships, differing considerably as to emolument. All these are now open, the old system of appointment by nomination having been abolished. About three junior students are elected every year in Lent term, one in every three for excellence in mathematics or physical science; and, besides these, three are sent up yearly from Westminster. The senior studentships are also open, with the usual limitation of independent income. Of these, however, only a third can be held by laymen. The studentships were very poor; but an improvement in this respect has been included among the recent changes. Some valuable exhibitions, however, and 90 benefices, are in the gift of the society. In 1881, there were about 1200 names on the college books. No statutes were given to C. because the death of the king took place shortly after the final foundation of the college. It was, in consequence, entirely governed by the orders of the dean and chapter, to the total exclusion of the tutors. To this separation of the governing from the teaching body, as well as to the small value of the studentships may be ascribed, in great measure, the inconsiderable degree of success in the schools, which, for many years past, brought no small discredit on this magnificent society.

CHRIST (or CRIS) CROSS ROW: the alphabet arranged in the form of a cross, for the use of children, and so printed in old 'horn' books, or primers. The letter A was at the top, and Z at the foot of the cross.

CHRISTIAN II., *kris'che-an* or *krist'yan*, King of Denmark, Norway, and Sweden: 1481, July. 2—1559, Jan. 28.

CHRISTIAN IV.—CHRISTIAN VII.

b. Vyborg, in the island of Funen. He ascended the throne of Denmark 1513. Shortly after his marriage in 1515, with a sister of the emperor Charles V., a young Norwegian peasant-girl, with whom C. was in love, died, or, as it was believed, was murdered. That natural ferocity, for which C. was surnamed the *Angry*, burst forth most furiously on this occasion. He caused the governor of the castle, Torben Oxe (see DYVEKÉ), to be beheaded. He afterward declared open war against Sweden, took Stockholm through fraud, and had himself crowned king. But the cruel vengeance and treachery of C. after this event excited the indignation of that country, which, headed by Gustavus Wasa (q.v.), succeeded in driving out the Danes, liberating itself from the yoke of the house of Kalmar, and finally electing Gustavus Wasa (1523) to the throne. In Denmark, too, the aristocracy had risen, and an insurrection in Jutland following, C. found himself forced to flee for refuge to the Netherlands; and his uncle Fredrick I. (q.v.), the introducer of the Reformation into Denmark, was elected king in his place. Encouraged, however by the Rom. Cath. party in the Netherlands, and assisted by Charles V., C. landed successfully in Norway 1531; but at the battle of Aggerhuus 1532, he was totally defeated, and made prisoner in the castle at Sonderburg, from which he was liberated after twelve years of confinement.

CHRISTIAN IV., King of Denmark and Norway, and Duke of Schleswig-Holstein: 1577, Apr. 12—1648; b. Zealand. He was elected successor to the throne 1580, and assumed the sceptre 1593. From 1610 he carried on a successful war, known as the Kalmarian war, against Charles IX of Sweden, and his successor, Gustavus Adolphus, which ended in an advantageous peace 1613. As leader of the Protestants in the thirty years' war, C. was not successful. His labors for the improvement of his country, in which he was indefatigable, were, however, most beneficial. He strengthened its maritime power; extended its commerce as far as the E. Indies, where he obtained the first possessions; and by restrictions upon the Hanse towns, greatly increased the inland trade of the country. His legislative and financial reforms, together with his love and patronage of the arts and sciences, gained for him the esteem of his people, especially of the learned.

CHRISTIAN VII., King of Denmark: 1749, Jan. 29—1808, Mar. 13; son of Fredrick V. and Louisa, of England. He succeeded to the throne of his father 1766, Jan. 14, and in the same year married Caroline Matilda, sister of George III., of England. The dissipations of his early life had enfeebled his energies, and rendered him unfit for government. The management of the state was, in consequence, seized by his ministers, with Count Bernstorff, who had possessed the entire confidence of the king's father, at their head. Bernstorff, however, was soon forced to retreat before Struensee (q.v.), who exercised unbounded influence over the king and his imprudent young queen. But innovations of a despotic tendency, and insults offered to the

CHRISTIAN VIII.—CHRISTIAN ALLIANCE.

national feeling, soon drew upon this minister the hatred of the nation. The queen-dowager seeing this, made it an occasion for satisfying her ambitious nature, by attaching herself to the malcontents; and in 1772 with the assistance of her son, Fredrick (1754–1805), she persuaded the vacillating king to draw up an order of arrest for Struensee and the young queen. Bernstorff was recalled from Hamburg. The king, now incapacitated by mental disease, governed only nominally. In 1784, his son Fredrick VI. (q.v.), came to the head of the government, as joint regent with the queen-mother.

CHRISTIAN VIII., King of Denmark: 1786, Sep. 18—1848, Jan. 20 (reigned 1839–48); nephew of Christian VII. The treaty of Kiel, ceding Norway to Sweden, was repudiated by the Norwegians 1814, Jan. 28. C., then gov. of Norway, offered himself as champion of independence, gathered an army of 12,000, called a diet Apr. 10, and was proclaimed king of Norway as Christian I., May 29. The allied powers supporting Bernadotte, C. gave up the crown Oct. 10, turned to study, and became pres. of the Copenhagen Acad. of Fine Arts 1832. He succeeded his cousin Fredrick VI. 1839, Dec. 3, and was crowned 1840, June 30. The liberals demanding the settlement of the Schleswig-Holstein question, he, by letter 1846, July 8, declared these provinces indissolubly united with Denmark. Complications arose, and shortly before the revolution of 1848 he died and was succeeded by his son, Fredrick VII.

CHRISTIAN IX.: King of Denmark; b. 1818, April 8. On the death of Frederick VII. in 1863, he ascended the throne by virtue of a protocol made in London, 1852, which conferred the right of succession on the house of Glücksburg on the extinction of the house of Oldenburg. Soon after he succeeded to the throne, the Schleswig-Holstein trouble culminated, and he was forced into war with Prussia and Austria, because these two powers pushed troops into the disputed territory. Christian was defeated, and compelled to withdraw from Schleswig-Holstein and Lauenburg.

CHRISTIAN ALLIANCE: organization whose full title is 'Christian and Missionary Alliance,' and whose aim is 'a union of all evangelical denominations for fellowship, prayer, and work, in promoting the gospel of full salvation and the evangelization of the neglected classes at home and abroad. Rev. A. B. Simpson, D.D., began the movement, 1881; headquarters are on 8th ave., near 44th st., New York.

A number of branches sprang up in different parts of the country, and in 1887 the C. A. was organized at Old Orchard, Me., as the direct outgrowth. Prominent among the teachings are entire sanctification, divine healing of disease, and the personal and premillennial coming of Jesus Christ.

Thousands of dollars are subscribed toward support of foreign missions each year. The C. A. has a Missionary Institute, which has been in operation since 1883, where students are given a training for from one to three years. A new building to accommodate 250 students was

CHRISTIAN BURIAL—CHRISTIAN ENDEAVOR.

opened in 1897 at South Nyack, N. Y. The Berachah Home at the same place offers a retreat for spiritual rest and physical healing. The organ of the C. A. is the *Christian Missionary Alliance*, issued every week from Nyack, N. Y.

CHRISTIAN BURIAL: see BURIAL: FELO DE SE.

CHRISTIAN CHARITY, KNIGHTS OF THE ORDER OF, in France: founded by King Henry III. for the support of maimed officers and soldiers, who had done good service in the wars. He assigned revenues to the order, drawn from all the hospitals in the kingdom. The knights wore on the left breast an anchored cross embroidered on white taffety or satin, with a border of blue silk, and in the middle of the cross a lozenge of sky blue charged with a *fleur de lis or*. The completion of the institution was reserved for Henry IV., who placed it under the charge of the marshals and colonels of France. The order formed the germ of that noble hospital the *Invalides*, founded by Louis XIV., and model for the English hospitals of Chelsea and Greenwich. When the Invalides was founded, the order of C. C. was superseded,

CHRISTIAN COMMISSION, THE UNITED STATES: organized in New York 1861, Nov. 14, The idea was suggested by Vincent Collyer, and pushed by the Young Men's Christian Assoc. of New York, which issued, Sep 23, a call on all similar associations in the north to unite in the work. The C. C. emulated and coöperated with the labors of the Sanitary Commission (q.v.) in ministering to the material wants of the soldiers, especially the sick and wounded, and supplemented them by giving attention to the religious needs of the troops, and assisting the efforts of the regimental chaplains. It sent forth a great number of zealous agents, received the gratuitous services of many clergymen and laymen, and accomplished much good. Its religious work aimed to be wholly unsectarian; and it aided in spreading a sentiment of Christian union among various denominations. In its physical ministrations there was some wholesome rivalry between it and the Sanitary Commission. Its *Annals* were written by Moss.

CHRISTIAN CONNECTION, THE: see CHRISTIANS, THE.

CHRIS'TIAN ENDEAV'OR, SOCIETY OF: organization to promote the Christian growth and usefulness of young people. It was originated by Francis E. Clark, D.D., and the first soc. was formed in the Williston Congl. Church (of which he was then pastor), Portland, Me., 1881, Feb. 2. It grew out of his desire for an efficient method of training a number of young converts for the privileges and responsibilities of church membership. Among the principles of the society are the following: That youth is pre-eminently the period for useful service; that, for religious efficiency, members must be organized; and that, to secure the best results, a direct obligation must be imposed on each member. The requirement is made that each member shall, unless specially detained, attend and take part in each weekly

CHRISTIAN ERA—CHRISTIANIA.

prayer-meeting of the society. Each soc. is connected with a local church, with which and for which it works. Its motto is, 'For Christ and the Church.' The form of constitution varies somewhat in minor points with the needs of the local societies, but in all organizations the prayer-meeting pledge is required of each member, a consecration meeting is held at stated periods, and lookout, prayer-meeting, and social committees are maintained. The organization is connected with all denominations. The Congl., in which it originated, led for a few years, but the Presb. has (1896) the largest membership, 5,458 Young People's and 2,599 Junior societies; the Congl. now stands second, with 4,109 Young People's and 2,077 Junior societies; the Dis. of Christ are third, with 2,941 Young People's and 1,087 Junior societies; the Bapt. have 2,679 Young People's and 927 Junior, the Meth. Prot. have 975 Young People's and 302 Junior, the Luth. have 854 Young People's and 268 Junior, and the Cumb. Presb. have 805 Young People's and 289 Junior societies. In Canada the Methodists lead, with 1,041 Young People's and 150 Junior societies, known mostly as Epworth Leagues of C. E.; the Presb. have 1,026 Young People's and 134 Junior, the Bapt. have 173 Young People's and 34 Junior; and the Congl. have 103 Young People's and 40 Junior societies. In the United Kingdom the Bapt. lead and in Australia the Wes. Meth. lead. Penn. has 3,273 societies, N. Y. 2,971, O. 2,311, Canada 3,292, the United Kingdom 3,000, Australia 2,000, France 66, West Indies 63, India 128, Mexico 62, Turkey 41, Africa 38, China 40, Germany 18, Japan 66, and Madagascar 93 societies. \$360,173 was contributed by C. E. societies during the year for missionary and church purposes. While charity is inculcated, the members are urged to give to their own denominational work. The united society, which furnishes a medium of communication and supplies needed literature, has its headquarters in Boston. The founder of the soc. is the president, and there is a treas., a general sec., and a board of trustees from various religious denominations and different parts of the country. It has no control over the individual societies, each of which looks after its own interests; and it makes no claim for financial support. Its expenses are met by the sale of its publications and by voluntary contributions. Its official organ is the *Golden Rule*, published at Boston. Junior Endeavor societies, with the same ends in view as the original soc., organize children between the ages of 7 and 14. At the fifteenth international convention of the societies, at Washington, D. C., 1896, July 9-13, the World's Union of Christian Endeavor was organized with Rev. Francis E. Clark, president, and Rev. W. J. L. Closs, of Australia, first secretary. In 1900 there were throughout the world 57,000 societies, with an aggregate membership of 3,500,000.

CHRISTIAN ERA: see CHRONOLOGY.

CHRISTIANIA: capital of Norway, in the province of Aggerhus, in a beautiful open valley on the n. side of the Christiania Fiord. C. is the seat of the Norwegian govern-

CHRISTIANIA.

ment, the superior courts, and the *Storthing*. Besides the suburbs of Pipervigen, Hammarsborg, Vaterland, and Greenland, the town consists of C., properly so called (laid out by Christian IV., 1614, in a regular parallelogram of 1,000 paces in length and breadth); the Old Town or Opslo, where the bishop resides, and the citadel Aggerhuus, from which the broad straight streets of the town can be fired upon. The most important public buildings are the royal palace, the bank and exchange, the house of representatives, or storthing, the governor's palace, and the cathedral. There is also the university, the only one in Norway, opened 1813, with a staff of 46 ordinary, and six extraordinary professors. About 1,500 students attend it annually. This institution contains, besides various scientific collections, a library of about 250,000 vols., a botanical garden, and an observatory ($59^{\circ} 54' 42''$ n. lat., and $10^{\circ} 50'$ e. long.), opened 1833. C. has also some good schools and learned societies, of which the 'Society for Northern Antiquities' is famous. The manufactures of C. are cotton, oil, paper, soap, and bricks. There are also numerous distilleries and corn-mills. It exports in considerable quantities wood, iron, anchovies, and glasswares. Over 2,000 vessels annually enter the port (which, however, is closed by ice for four months). It has regular steam-boat communication with Gottenburg, Copenhagen, Kiel, Hull, and Leith. C., by means of its bay, is connected with Drammer (pop. 23,093), famous for its extensive trade in timber, etc. The scenery of the whole bay is unsurpassed in beauty. Pop. (1891) 150,444; (1900) 227,626.

CHRISTIANITY.

CHRISTIANITY. *kr̄st-yān'i-t̄:* the religion which centres in Christ Jesus—comprising doctrine and precept as divinely given or authenticated through Christ, and human belief and life as adjusted primarily to him and controlled by him. In common usage, however, C. often means the doctrinal and ethical system set forth in the New Testament. For the principal parts of the system and evidences of C., see their respective titles.

C. comes to man with a claim to be received as of divine origin. It is no product of the human mind, but has for its author the living God, whom it sets before us as the object of worship. It is consequently altogether exclusive; it claims to be deemed the only true religion—‘the truth’—and admits of no compromise or alliance with any other system, though it is far from denying the separate truths or the fragmentary goodness which may appear in other systems.

C. cannot be viewed as distinct from the religion of the Jews and of the patriarchs; it is the same religion developed according to its own inherent law, and accommodated to new circumstances; there has been a change of *dispensation* only. In studying either the system or the evidences of C. we are compelled continually to revert from the New Testament to the Old, and must in some measure trace the history of the true or revealed religion through the previous and preparatory dispensations.

The whole system of C. may be regarded as having its foundation in the doctrine of the existence of one God: see GOD. Next to this may be placed the doctrine of the Fall (q.v.) of Man. Man is represented as involved in misery, because in sin (q.v.)—*original* and *actual*—and every individual of the human race as estranged from (or as naturally involved in estrangement from) the service and fellowship of God, obnoxious to the displeasure of God, and liable to punishment in a future and eternal state of being: see PUNISHMENT, FUTURE. At this point comes into view the doctrine of the ATONEMENT (q.v.)—a doctrine taught in all the sacrifices (see SACRIFICE) of the patriarchal and Jewish dispensations, as well as by the words of inspired teachers; and whose necessity is shadowed forth in the systems of paganism. Man being utterly incapable of effecting his own deliverance from sin and misery, God sent his Son to save sinners, to deliver them from hell, to make them holy, and to re-establish them as God’s children, partakers of his own eternal life, whose consummation in them is to be the eternal joy and glory of heaven.

By those who regard Christ as a mere creature, *atonement* or *reconciliation* with God is made to depend on the repentance of man as its immediate cause; while the life and death of Christ are represented as merely an example for man of obedience, virtue, and piety in the most trying circumstances; the doctrines of man’s estate of ruin in sin, of a divine redeeming sacrifice, and of a profound moral and spiritual renewal of man’s nature after the likeness of the Son of God—called by Christ, ‘being born again’—with all that form part of the same system, falling com-

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pietely and necessarily to the ground. These doctrines, however, are all consistently maintained in connection with the Scriptural doctrine of the Father and the Son and the Holy Spirit—one God; and with the generally-received doctrine as to the person of Christ: see CHRIST: TRINITY. The very incarnation (q.v.) of the Son of God is regarded as a glorious display of the divine condescension and loving kindness toward sinners, and as a wonderful exaltation of human nature, while a personal enjoyment of the highest dignity and bliss of which humanity is capable, in the favor and fellowship of God for ever, is to be attained by faith in Jesus Christ. See FAITH: JUSTIFICATION.

The indissoluble connection between faith and salvation arises from the divine appointments, but is also of the nature of an essential harmony, or even unity, of the two, and therefore secures a moral harmony; inasmuch as it provides for bringing into operation—in accordance with the intellectual and moral nature of man—of most powerful and excellent motives for all that is morally good, the partakers of salvation being thus fitted for the fellowship of him into whose favor they are received; and inasmuch also as it prevents the possibility of any of them taking to themselves, or giving to others, the glory of that salvation which they really owe to Christ, and which they with joyful gratitude ascribe only to him.

Salvation is ascribed, in the Christian system, to the grace of God. The mission of Christ was an act of supreme grace; and all must be ascribed to grace for which man is indebted to Christ. The doctrine of grace, however, is a part of the system of C. on which important differences subsist, especially as to the relation of the grace of God to individual men. Such are the differences concerning ELECTION (q.v.), and concerning the origin of faith, and man's ability or inability to believe of himself. But with whatever minor variations of doctrine, in any system recognizable as Christian, the personal relation of the believer to Christ, and his faith in Christ, are ascribed to the Holy Ghost or Spirit of God, and so to the grace of God: see ARMINIUS: CALVINISM: PELAGIUS.

In the view of all who hold the doctrine of the Trinity in its scriptural statement, the doctrine concerning the Spirit of God are a very important part of the Christian system. To the agency of the Holy Spirit, who may be viewed as God in his full personal efficiency, besides all that is ascribed to Him concerning the human nature of Christ, the world is indebted for all that is spiritually good in man; the Spirit, in the economy of grace, being sent by the Father, through the mediation and on the intercession of Christ, to communicate the blessings purchased by the Son of God in his obedience and death: see HOLY SPIRIT.

Salvation, or the eternal life given by the Holy Spirit through Christ, begins on earth; and whenever a man believes on Christ (not with the intellect merely, but with the heart, including love and discipleship), he is a partaker of it—is in a state of salvation. It is essential in the Calvinistic sys-

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tem (though neither this nor any other human system is to be identified with Christianity) that he who is in a state of salvation always remains so, and that the salvation begun on earth is in every case made perfect in heaven: see PERSEVERANCE OF SAINTS. In Christianity generally salvation is viewed as beginning in REGENERATION (q.v.), and as carried on in SANCTIFICATION (q.v.), and all its joys as connected with the progress of sanctification. Faith in Jesus Christ cannot be unaccompanied with repentance, and repentance is always renewed when the exercise of faith is renewed. For though all believers are called *saints* or *holy*, as set apart to God and in contrast to what they previously were, yet there is none in this life free from sin; the successful tempter of our first parents, who assailed our Savior with temptation and was defeated, being still the active enemy of men, against whom believers in Jesus Christ are called to contend, to watch, and to pray: see DEVIL. The sense of responsibility belongs to human nature; and the doctrine of a judgment (q.v.) to come may be considered as to a certain extent a doctrine of natural religion; and some doctrine of a future life has formed a part of many pagan systems (see IMMORTALITY); but the clear and distinct enunciation of these truths is due to Christ alone, who brings immortality to light in the resurrection (q.v.) of the dead.

The mortal part of C. is as harmonious with the doctrinal as it is inseparable from it; it is founded upon the eternal attributes of God, and is perfectly illustrated in the character of Jesus Christ. It is divisible into two great parts—one, the *love of God*; and the other, the *love of man*, or of ourselves and our neighbors: see LAW, MORAL.

The *means of grace*, or of the attainment of the blessings of salvation, are important in the Christian system. Of these the WORD OF GOD—or divine revelation contained in the Bible (q.v.)—first claims attention, as the means of *conversion* to Christ, and of *edification* in Christ, the instrument by which salvation is both begun and carried on in men. The ordinances of God's worship are among the means of grace. Thus prayer (q.v.) is one of the chief means of grace. Christ's ordinances of Baptism and of the communion at His table—commonly called sacraments (q.v.) though this term is nowhere applied to them in the New Testament—are rich means of grace, concerning the precise use of which, and their relative importance as compared with the other means considerable difference of opinion prevails among Christians. The same remark applies also to the combination of Christians into an organized body or community, the Church (q.v.), with its laws or system of church-order: see CHURCH GOVERNMENT.

Within this outline of the general Christianity have arisen many controversies on particular points; for the principal of these, see the respective titles.

The truth of C. is established by many different *evidences*, distinct and independent, but mutually corroborative. It appeals to reason, and demands to have its claim examined and admitted, when found to stand all proper tests. Nor is there any *faith* where there is not a mental conviction which

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is capable of being justified on an appeal to sound reasoning.

The evidences of C. are generally divided into two great classes, *internal* and *external*—the former consisting of those which are found in the nature of the Christian system itself, and in its adaptation to the nature and wants of man; the latter, of those which are derived from other sources. The boundary between the two classes, however, is not so distinct in reality as it appears in the definition of the terms. Of the multitude of books which have been written on the subject of the evidences of C. some are devoted mainly to one of these classes, and some to the other; while some are occupied with the development of particular evidences or arguments, and some with the refutation of objections, and in particular of what may be called a preliminary objection—that a divine revelation can never be established by sufficient evidence at all: see REVELATION.

The evidence of miracles (q.v.) and the evidence of prophecy (q.v.), are two of the principal branches of the external evidences of C. Another argument, which has been much elaborated—for example, in Paley's *Evidences*—is derived from the character and sufferings of the apostles and other first preachers of C.; their high moral worth, with their great earnestness and devotedness; the absence of all possibility of selfish or base motives; and, at the same time, their perfect opportunity of knowing the truth of the facts which they proclaimed. A subsidiary argument is found in the admission of the great facts regarding Jesus of Nazareth, by the early opponents of Christianity. A most important and valuable argument is found in the perfect coherence of all the parts of the Christian system, and in the agreement, as to the religion which they teach, of all the books of Scripture, notwithstanding the widely different dates of their composition, and their very different nature in other respects: sec BIBLE. The relation of the Jewish ceremonies to the doctrines of C. supplies another argument of this kind, capable of being developed in a multitude of particulars. The minor coincidences between the different books of Scripture have been pointed out with happy effect in the *Hore Paulinae* of Paley, and in other works. The character of our Savior supplies an argument of the grandest power; the impossibility of the invention of such a character, and of the history in which it is exhibited, by any effort of human genius, is also urged as corroborative; and the inconsistency of the morality displayed with the supposition of imposture has been dwelt upon with the same view. The excellency, both of the doctrinal and of the moral part of the system of C., its elevating and purifying tendency, the agreement of its doctrine with the evident facts of human sinfulness and misery, and the suitable provision which it makes for the deepest wants of which he is conscious, are principal branches of the internal evidence of its truth. The effects of C., where it has prevailed, supply a confirmatory argument in its favor, which has formed the subject of works of great learning and interest.

CHRISTIAN KNOWLEDGE, SOCIETY FOR PROMOT-

CHRISTIAN NAME.

ING: oldest of the great religious associations connected with the Church of England. It was founded 1698, though it did not receive its present name till 1701; and had for its object: '1. To promote and encourage the erecting of charity schools in all parts of England and Wales. 2. To disperse, both at home and abroad, Bibles and tracts of religion; and, in general, to advance the honor of God, and the good of mankind, by promoting Christian knowledge, both at home and in other parts of the world, by the best methods that should offer.' These objects it has never ceased to pursue, directing its efforts chiefly to the British dominions; partaking at once of the nature of an educational association, a missionary soc., a Bible soc., and a religious tract soc.; and notwithstanding the operations of other great societies in these several departments of Christian benevolence, its revenue amounts to about £100,000 a year. The total amount of the cash and book grants during 1901-2 was £37,400. The Protestant missionaries who labored in the s. of India in last century were supported chiefly by this society, which has also established many Christian schools.

CHRISTIAN NAME: see NAME.

CHRISTIANS.

CHRISTIANS, THE: religious denomination called sometimes CHRISTIAN CONNECTION (distinct from the *Disciples of Christ*, also sometimes called *Christians*). They repudiate as a nickname the pronunciation with *i* long, *Christ-i-ans*. The body had its origin in three secessions. (1) James O'Kelly and others left the Methodists in N. C., 1793, and at first were called 'Republican Methodists,' but at a conference in Surry co., Va., 1794, Aug. 4, organized as 'Christians.' (2) Abner Jones, of Harkand, Vt., established, 1800, at Lyndon, Vt., a society which disavowed sectarianism and human creeds. He was joined by Elias Smith and other Baptists, and many churches were formed in New England within the next four years. These two compiled *Hymns, Original and Selected, for the Use of Christians* (1805-10), and E. Smith conducted the *Christian's Magazine*, a quarterly, 1805-07, and began, 1808, Sep. 1, *The Herald of Gospel Liberty*, which is claimed (though the claim is disputed) to be the earliest religious newspaper, preceding by eight years the Boston *Recorder*, and by five the *Philadelphia Remembrancer*. (3) Baron W. Stone, David Purviance, and other Presbyterians in Ky. and Tenn., withdrew, 1801, from the synod of Ky., organized the Springfield presbytery, and announced their principles, 1804, June 28. These three bodies, having the same ideas and aims, were soon consolidated under a congregational government, with a general convention, meeting quadrennially.

The views of the C. are thus expressed by themselves: 'They seek to unite the followers of Christ of every persuasion, by breaking down party walls, party spirit, and sectarian feeling and practice, and by infusing into the minds and hearts of all lovers of the Redeemer a liberal spirit, thereby inducing liberal practice. They admonish their brethren to beware of atheists, deists, agnostics, humanitarians, spiritualists, universalists, etc. Their watch-word has always been, "Let the brethren of the Christian Church beware!" They have no rule of faith but the Holy Scriptures, and the only test of fellowship agreed upon is Christian character. They believe that the right of private judgment and liberty of conscience in reference to those points of doctrine and practice not considered essential to salvation should be accorded and enjoyed by all; and that therefore all who believe in and love and serve the Lord Jesus Christ ought to be received into the fellowship and communion of the church. They discard the use of such words as "Trinity," "Three Persons in One," in reference to the Father, Son, and Holy Spirit, as illogical and misleading, and prefer to use Bible terms instead. They advocate immersion as the proper mode of baptism, but will not refuse an infusionist membership. They believe in the future reward of the righteous and punishment of the wicked. They hold that the fall of our first parents in Eden involved not only the actual transgressors, but their posterity, in that they are born in exile from God, i.e., the children of sinful parents; but the church does not teach total depravity, nor that any are damned on account

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of original sin. They do not believe that God elects some, and condemns the rest of mankind; a child may have a sinful heritage, but is not an actual sinner before arriving at the age of accountability. They hold that the Scriptures are inspired and of divine authority; that every man has a right to interpret them for himself; that differences of theological views are not a bar to church fellowship; that there is one God, and that Christ is His divine Son, who pre-existed before He came to earth, and is the Mediator between God and man, and that His sufferings atone for the sins of all men, who by repentance and faith may be saved; that immersion is the only proper form of baptism, and believers the only proper subjects for that ordinance; that communion at the Lord's table is open to believers of all denominations; that the Holy Ghost is the Spirit of God—that it bears a like relation to God as the spirit of man does to man. Although they have a decided opinion of the Father, Son, and Holy Spirit, they seek to know no more than what is written in the language of the Holy Scriptures. In their early history they were often misrepresented, but are now regarded as orthodox. They put much stress on the punishment that awaits those who add unto God's word or take therefrom.'

This definition of their doctrines, though evangelical, does not present a definite assertion of a strictly Trinitarian theology. Within the present century the emphasis formerly laid on theological accuracy has indeed been somewhat modified, partly perhaps by the influence of this body; but, in the general acceptation of the term, Trinitarian doctrine is still a component part of 'orthodoxy.' The preface to *The Christian Hymn Book* (Boston, 1863), signed by T. C. Moulton and others, says, 'We have neither been afraid of orthodoxy, nor that "which some call heresy," while we have attempted no compromise with either.'

The slavery trouble disturbed the connection of the southern with the northern conferences, and the former organized, 1856, a Southern general convention, which still exists, though the whole body is united in an American general convention, which, by its constitution, regulates financial business, the election of officers, and several departments. A publishing house at Dayton, O., issues books, tracts, and the old *Herald of Gospel Liberty*, which is the denominational organ, and was long ago united with the Dayton *Gospel Herald*. The *Christian Sun*, published formerly at Suffolk, Va., is now conducted at Raleigh, N. C., by J. P. Barrett, D.D. The body controls the following institutions of learning: Starkey College, founded 1842, at Eddytown, Yates co., N. Y.; Antioch College, Yellow Springs, O., 1852; Graham College, N. C., 1852; Union Christian College, Merom, Ind., 1859; Lincoln College, Kan., 1885; Suffolk Collegiate Institute, Va., 1872; Christian Biblical Institute, Eddytown, N. Y., 1869; Weaubleau Institute, Mo., 1872; Literary and Theol. Institute (for persons of color), Franklinton, N. C., 1880; Le Grand Christian Institute, Iowa, 1865; and Windsor

CHRISTIANSAND—CHRISTIANSFELD.

High School, Va., 1885. Camp Christian, Craigville, Mass., is a seaside resort, under a charter; it has a large tabernacle and about 100 cottages.

True to their principles, the C. have made efforts toward organic union with affiliated bodies. The Disciples of Christ (q.v.), who also have claimed the name 'Christian,' are a much stronger body, with over 500,000 members and some 50 universities, colleges, and seminaries; though agreeing with the C. in most matters they are not so liberal, admitting no baptism but by immersion, and this difference prevented a union. Several conferences were held, 1886, with the Free Will Baptists, but to no definite result. A council held 1886, May, with the Union Christian Church was more successful, and a confederation was formed between the two. This body, organized at Columbus, O., 1865, has some 50,000 communicants, two organs (the *Christian Witness*, edited at Newark, O., by Rev. H. J. Duckworth, and the *Sentinel of Truth*, Excelsior Springs, Mo., conducted by J. V. B. Flack, D.D.,), and Humboldt College, Iowa, founded by S. Taft, but now carried on as a seminary.—The C. have made considerable gains in the last ten years. They had (1902) 1,151 preachers, over 1,500 congregations, and about 100,000 communicant members. The value of their church property is estimated at about \$3,500,000. Besides home missions and the work of church extension, they support a foreign mission in Japan, under the supervision of the Rev. D. F. Jones. Among their most eminent clergy of the past, besides the founders above mentioned, were Wm. Kinkade, Prof. David Millard, Dr. W. B. Wellons, J. N. Manning, F. A. Plummer, Jos. Badger, Jabez Chadwick, S. Clough, Prof. E. W. Humphreys, Dr. A. Craig, J. N. Spoor, and J. G. Wilson.

CHRISTIANSAND, *kris'tē-ān-sānd*: principal town of the province or *stift* of that name in Norway; at the mouth of Torridalselv, in the bay of Christiansand. C. is the residence of a bishop and high-bailiff or *stift-amtmann*, and has a branch of the Norwegian Bank, a gymnasium, and several charitable foundations. The manufactures are leather, tobacco, cotton, etc. Ship-building forms also a considerable branch of industry. The town, built 1641, by Christian IV., has an excellent harbor, divided into two parts by the island of Oddern. A destructive fire took place here 1880. C. exports wood, lobsters, and salmon in large quantities. The town and harbor are protected by several fortifications. Pop. (1875) 12,137; (1900) 14,666.

CHRISTIAN SCIENCE: see SCIENCE, CHRISTIAN.

CHRISTIANSFELD, *kris'tē-āns-feld*: settlement of Moravian brothers, in the n. part of Schleswig; founded 1772. It consists of 64 houses and about 700 inhabitants. The houses, well built, and cheerful in appearance, are arranged in parallel streets, with the church upon a green plot in the middle. The settlement is represented by the inspectors or chiefs appointed by the directors of the fraternity; and the representatives elected by the members of

CHRISTIANS OF ST. JOHN—CHRISTIANSTAD.

the sect. The manufactures are linen, soap, cotton, leather, etc.

CHRISTIANS OF ST. JOHN, or NAZARE'ANS: a strange sect found in Persia, chiefly near Bassorah. They are Christian only in name, but claim to follow John the Baptist, to have originated on the Jordan in his time, and to have been driven by the Mohammedans from Palestine to Persia and India. To avoid persecution they joined the Nestorians, but left that sect in the 16th century. Neander interpreted their other names, Mendæans and Sabæans, to mean disciples and baptizers, and supposed them sprung from those followers of St. John Baptist who opposed themselves to Christianity. Their doctrines show abundant traces of Gnostic, if not of Manichean, influence. The original Deity, Ferha, lives with a female principle, Ajar, in remote splendor. Beneath him are kingdoms of light and darkness, between which is continual conflict, mostly to the advantage of darkness. Seven dark angels, inhabiting the seven plánets, made the world. Jehovah, Jesus, and their respective scriptures, belong to the kingdom of darkness, but John Baptist (who had a wife and children) represents light, and baptism is the only way to light, the door of forgiveness and redemption. This sect has four doctrinal books and one astrological. It prohibits mourning for the dead, allows polygamy to priests and people, but forbids sensual indulgences, and even singing and dancing, by the elect, or by those who have reached the higher life. The C. observe a sort of love-feast, and abhor anything blue. When discovered by the missionaries in Persia, about 1650, they numbered some 100,000.

CHRISTIANS OF ST. THOMAS: an ancient body, still existing along the coast of Malabar in s.w. Hindostan. They claim to have been established by the apostle Thomas, who carried his labors to that region, but are probably a branch of the Syro-Persian Church, founded 499 by Nestorians excommunicated for adhering to the Monophysite heresy. Under the Portuguese rule they submitted, 1599, to the Church of Rome, and their books were burned by order of the synod of Diamper. Later, many of them resumed their independence; these numbered 70,000 in 1859, and claimed, 1869, to have 190,000 members. They retain some primitive customs, as the agapæ or love-feasts; they use bread, salt, and oil in the communion, and anoint infants with oil in baptism; their priests shave the head, and are permitted to marry. They use the Syriac rite, and are subject to the Jacobite patriarch of Antioch. Once the leading class in Malabar, they are said to be now much debased, and are most numerous at Travancore.

CHRISTIANSTAD, *kris'tē-ān-stād*: strongly fortified cap. of a province of the same name in the s. of Sweden. It is on the Helge, about 9 m. from the Baltic, and 265 s.w. of Stockholm. C. is the residence of a governor, and the seat of a court of justice. It is a beautifully-built town, and possesses an arsenal, a school, a magnificent

CHRISTIANSTED—CHRISTINA.

church, and a senate-house. The people are employed chiefly in the manufacture of woolen goods, leather, gloves, etc. There is also some trade in wood, pitch, potash, etc. The town, founded by Christian IV., has suffered many sieges. Pop. (1880) 9,203; (1901) 10,446.

The province of Christianstad has 2,507 sq. m. Pop. (1880) 230,619; (1890) 221,697; (1901) 219,459.

CHRISTIANSTED, *kris'tē-ān-stēd*: the chief town of the Danish island of St. Croix, in the West Indies. It stands on the n.e. coast of the island, and has an excellent harbor, which is defended by a fort and a battery. Here resides the governor-general of the Danish West Indies. The number of its inhabitants is 5,700.

CHRISTIANSUND, *kris'tē-ān-sōnd*: seaport on the w. coast of Norway, 85 m. w.s.w. of Trondhjem; lat. $63^{\circ} 3'$ n.; long. $7^{\circ} 40'$ e. It was founded 1734 by Christian VI. of Denmark, and at first was called Lille-Fosen. It is built on three small islands, which inclose a nearly circular harbor; and exports wood and fish, chiefly salt cod, to Spain, the Mediterranean, and the West Indies. Pop. (1900) 12,050.

CHRISTIAN UNION CHURCHES: see UNION CHRISTIAN CHURCHES.

CHRISTINA, *kris-tē'nā*, Queen of Sweden: 1626, Dec.—1689, Apr. 19, only child of the great Gustavus Adolphus. She succeeded her father 1632, when only six years old. Distinguished equally by beauty and the possession of a lively imagination, a good memory and uncommon intelligence, she received the education rather of a man than of a woman; and to this may in part be attributed the many eccentricities of her life. During her minority, the kingdom was governed by the five highest officers of the state, the principal being Chancellor Oxenstiern. In 1644, she assumed the reins of power, and, 1650, was crowned with the title of *king*. She had previously declared her cousin, Charles Gustavus, her successor. For four years thereafter, she ruled the kingdom with vigor, and was remarkable for her patronage of learned and scientific men. In 1654, however, at the age of 28, weary of the personal restraint which royalty imposed on her, she abdicated in favor of her cousin, reserving to herself sufficient revenues, entire independence, and supreme authority over her suite and household. Leaving Sweden, she proceeded to Brussels, where she embraced the Rom. Cath. faith. She afterward went to Rome, which she entered on horseback, in the costume of an Amazon, with great pomp. Confirmed by Pope Alexander VII., she adopted the surname of Alessandra. In 1656, she visited Paris; and the following year, on a second residence there, she caused her grand equerry, Monaldeschi, who had enjoyed her entire confidence, to be executed in her own household for treason. In 1658 she returned to Rome, and, 1660, the death of the king, her cousin, caused her to hasten to Sweden; but, failing in her attempt to be reinstated on the throne, she again left the country. In 1666, she aspired to the

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crown of Poland, but was unnoticed by the Poles. The remainder of her life was spent in Rome in artistic and scientific pursuits. Besides founding an academy, she collected valuable MSS., medals, and paintings. Much of her conduct indicates that at times she was scarcely sane.

CHRISTINA: Queen of Spain: see MARIA CHRISTINA.

CHRISTISON, *kris'ti-son*, Sir ROBERT, D.C.L.: physician: 1797, July 18—1882, Jan. 27; b. Edinburgh; son of Alexander Christison, prof. of humanity in the Univ. of Edinburgh. He was educated at the high school, and, 1811, became a student at the univ. After graduating 1819, he went to London and Paris; and, in the French capital, studied toxicology under the celebrated Orfila, a department of medical science in which in Britain his name has become eminent. Commencing the practice of medicine at Edinburgh, he was, 1822, appointed prof. of medical jurisprudence in the univ. of that city, and, 1832, was promoted to the chair of *materia medica*. Besides contributing papers on various subjects to medical journals, C. is author of a *Treatise on Poisons*, published 1829, a standard work; *Biographical Sketch of Edward Turner, M.D.* (1837), being an address delivered before the Harveian Soc. of Edinburgh; a treatise *On Granular Degeneration of the Kidneys* (1839); and *The Dispensatory, a Commentary on the Pharmacopæias of Great Britain* (1842). Twice pres. of the Royal College of Physicians, Edinburgh, and ordinary physician to the queen in Scotland, in 1871 he was created a baronet. In 1877, Sir Robert retired from professorial and other public work.

CHRISTMAS, *kris'mas* [*Christ*, and *mass*: OE. *Cristemas*]: the day on which the nativity of the Savior is observed—assigned to Dec. 25. The institution of this festival is attributed by the spurious Decretals to Telesphorus, in the reign of Antoninus Pius (A.D. 138–161), but the first certain traces of it are found about the time of the Emperor Commodus (180–192). In the reign of Diocletian (284–305), while that ruler was keeping court at Nicomedia, he learned that a multitude of Christians were assembled in the city to celebrate the birthday of Jesus, and having ordered the church-doors to be closed, he set fire to the building, and all the worshippers perished in the flames. It does not appear, however, that there was any uniformity in the period of observing the nativity among the early churches; some held the festival in May or Apr., others in Jan. There is no reason to suppose that Dec. 25 was the day of Christ's nativity; indeed, it is not evident that it could have been; for it is then the height of the rainy season in Judea, when shepherds could hardly have been watching their flocks by night in the plains.

C. not only became the parent of many later festivals, such as those of the Virgin, but, especially from the 5th to the 8th c., gathered round it several other festivals, partly old and partly new, so that what may be termed a *Christmas Cycle* sprang up, which surpassed all other groups of Christian holidays in the manifold richness of its festal

CHRISTMAS.

usages, and furthered, more than any other, the completion of the orderly and systematic distribution of church festivals over the whole year. Not casually or arbitrarily was the festival of the nativity celebrated on Dec. 25. Among the causes that co-operated in fixing this period as the proper one, perhaps the most powerful was, that almost all the heathen nations regarded the winter-solstice, which occurs at about this time, as a most important point of the year, as the beginning of the renewed life and activity of the powers of nature, and of the gods, who were originally merely the symbolical personifications of these powers. In more northerly countries, this fact must have made itself peculiarly palpable—hence the Celts and Germans, from the oldest times, celebrated the season with the greatest festivitics. At the winter-solstice, the Germans held their great Yule-feast (see YULE), in commemoration of the return of the fiery sun-wheel; and believed that during the 12 nights from Dec. 25 to Jan. 6, they could trace the personal movements and interferences on earth of their great deities, Odin, Berchta, etc. Many of the beliefs and usages of the old Germans, and of the Romans, relating to this matter, passed over from heathenism into Christianity, and have partly survived to the present day. But the church also sought to combat and banish—and it was to a large extent successful—the deep-rooted heathen feeling, by aiding—for the purification of the heathen customs and feasts which it retained—its grandly devised liturgy, besides dramatic representations of the birth of Christ and the first events of his life. Hence sprang the so-called ‘Manger-songs,’ and a multitude of C. carols, as well as C. dramas, which, at certain times and places, degenerated into farces or Fools’ Feasts (q.v.). Hence also originated, at a later period, the Christ-trees, or C.-trees, adorned with lights and gifts, the custom of reciprocal presents, and of special C. meats and dishes, such as C. cakes, dumplings, etc. In recent years, it has become usual for friends to forward to one another, by post, gayly-illuminated Christmas-cards, bearing Christmas greetings, though this custom seems now on the wane.

In the Rom. Cath. Church, three masses are performed at C.—one at midnight, one at daybreak, and one in the morning. The day is celebrated also by the Anglo-Cath. Church and the Prot. Episc. Church in the United States—special psalms are sung, a special preface is made in the communion service, and (in the English Church) the Athanasian creed is said or sung. The Lutheran Church, on the European continent, and in America, likewise observes C.; but the Presbyterian Churches in Scotland, and large portions of the English dissenters, reject it, in its religious aspect, as a ‘human invention,’ and as ‘savoring of papistical will-worship;’ although, in England, dissenters as well as churchmen use it as a social holiday, on which there is cessation from all business. Its religious observance, however, is manifestly growing in favor in recent years among all non-prelatrical denominations, both in England and in the United States. Its suggestions of the

CHRISTMAS-BOX—CHRISTMAS CAROLS.

Son of God as a little child are so sweet and tender, that it has commended itself as a children's day, and therefore a family day, and thence as a day within the cognizance of the church for spiritual uses. But within the last hundred years, the festivities often degenerating into wild revel, once customary at what is known as the C. season, (Dec. 25—Jan. 6), have much fallen off. These at one time lasted with more or less brilliancy till Candlemas, and with great spirit till Twelfth-day; but now a meeting in the evening, composed, when possible, of the various branches and members of a family, is the chief social and festal distinction of the day.

CHRISTMAS-BOX: box holding a small money-gift to persons in an inferior condition, presented on the day after Christmas, which is hence popularly called *boxing-day*. The term, and also the custom, are essentially English, though the making of presents at this season and at the new year is of great antiquity. Interesting particulars concerning the C. B. are given in Brand's *Popular Antiquities*. Within the memory of middle-aged persons, the practice of giving Christmas boxes, or petty presents, to apprentices, domestic servants, and tradesmen, had become a serious social nuisance, particularly in London, where every old custom seems to linger and is most difficult to be set aside. Householders felt under an obligation to give money to the apprentices in the shops where they dealt; also to various inferior parish officers, including scavengers and lamplighters; while shopkeepers, on the other hand, were equally impelled to make presents to the male and female servants of their customers. Thus, as referred to in *Christmas*, a poem:

'Gladly, the boy, with Christmas-box in hand,
Throughout the town his devious route pursues;
And, of his master's customers, implores
The yearly mite: often his cash he shakes;
The which, perchance, of coppers few consists,
Whose dulcet jingle fills his little soul
With joy.'

At length the C.-B. system became such an intolerable grievance, that tradesmen stuck up notices in their windows that no Christmas-boxes would be given; and at the same time the public authorities issued remonstrances to the same effect. At Christmas 1836, the secretary of state for foreign affairs issued a circular to the different embassies requesting a discontinuance of the customary gifts to the messengers of the foreign department, and other government servants, and the practice has since greatly decreased.

CHRISTMAS CAROLS: quaint, grotesque, popular ditties, or more dignified songs of Christian joy customarily sung at Christmas time. The word carol [It. *carola*, and Fr. *carole*, a round dance—probably from Lat. *corolla*; Welsh, *coroli*, to reel, to dance; the name is thence applied to the music or song accompanying such a dance: *curillon* is probably allied] signifies a song of joy. The practice of singing carols, or, at all events, sacred music, in celebration of the nativity of Christ as early as the second c., is con-

CHPISTMAS ROSE—CHRISTOLOGY

sidered as proved by the fact that a large sarcophagus belonging to that period has sculptured upon it a representation of a Christian family joining in choral praise for this purpose. A century or two after this, however, the C. C. seem to have sadly degenerated, and to have become so indecent, that the clergy found it necessary to forbid them. Under the Anglo-Saxon kings, merriment and piety were pleasantly combined in English life, a peculiarity that affected the C. C. of that period not a little; but by the 13th c. the jocoseness had unhappily lapsed into what would now be profaneness. The oldest printed collection of English C. C. bears date 1521. The majority of these, though written by men of learning—priests and teachers—exhibit a lamentable ignorance of the character of the two most prominent persons in the carols—Mary and Jesus. In 1525 was kept the ‘still Christmas,’ on account of the illness of King Henry; but with this exception, the sacred season appears to have been regularly celebrated with joyous music and songs during the Tudor period. In 1562, C. C. of a more solemn nature were introduced. By the Puritan parliament, Christmas was abolished altogether, as a remnant of popery, and politically as a rallying point for sedition against the government, and holly and ivy were made seditious badges; and in 1630 the psalms, arranged as carols, were advertised. After the restoration the C. C. again exhibited a hearty, cheerful, and even a jovial character. Those carols with which the dawn of Christmas is now announced in England are generally religious, though not universally so. In France the carols at this season used to be much less sacred than gay. Often, indeed, they were grossly bacchanalian. In the United States Christmas carols form a tasteful and well-ordered part of many church-services at this season, especially those in which children have a prominent part.

See an interesting paper in the *Athenaeum*, 1856, Dec. 20; also Sandy’s *Christmas Carols*, 8vo, 1833; Sylvester’s *Christmas Carols and Ballads*.

CHRISTMAS ROSE: see HELLEBORE.

CHRISTOLOGY: doctrine of the person of Christ. The word itself is found rarely in the divines of the 17th c. (see Dean Trench on the *Study of Words*), but the department on scientific theology which it now represents is almost entirely the growth of modern, particularly of German, inquiry. The word C. has but lately become accredited in Great Britain; but it indicates an important and increasing discussion throughout Christendom in this department of theological science. There are only three methods of apprehending the doctrine of the person of Christ: see CHRIST, THE. First, there is the *rationalistic* method. This consists in representing the development of the Messianic idea in Jewish history as purely natural, conditioned by purely human and historical influences—in short, as a subjective or self-originated notion, to which there was no correspondent divine reality. Second, there is what, for want of a better word, may be called the *spiritualistic* method (that of theologians like Neander, Rothe, etc.).

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This consists in representing the development of the Messianic idea in Jewish history as both natural and supernatural; that is to say, it asserts the existence of a divine objective reality ('the eternal Son of God') as the basis of the subjective idéa in the minds of the Jews, and regards the growth of that idea, and the influence of historical circumstances, as the result of a supernatural providence, which culminated in the revelation 'of the mystery of godliness—even He who was manifested in the flesh.' Third, there is the *dogmatic* method, which is the one accepted by the common order of theologians. This consists in representing the doctrine of the person of Christ as *symbolically* known to the spiritually-minded among God's people from the earliest ages. 'Abraham saw his (Christ's) day afar off.' This is interpreted to signify that, by the grace of prophetic illumination, the righteous men of old were enabled to foresee in a mysterious and inexplicable manner the atonement of Christ, as it eventuated in later history. Admitting with the spiritualistic theologians, that the Messianic idea among the Jews underwent, in some sense, a historical development, the dogmatic Christologists differ, in general, from the former by attributing to the higher minds such a knowledge of the *work* of Christ, as logically involves a knowledge of his person and character. The entire absence, however, in the Old Testament, not indeed of any *personal* traits of the Christ but of any development of these into a fully-organized character, such as might be expected of those who had prophetically seen him in his historic personality, even with the eye of faith, has induced many 'orthodox' theologians to shrink from making any statement in regard to what may have been the doctrine of the person of Christ among the ancient Jews.

CHRISTOPHE, *krēs-tōf'*, HENRI, King of Hayti 1767, Oct. 6—1820, Oct. 8; at one period a slave and tavern-cook in Cape Town, San Domingo, and afterward overseer of a plantation. In 1790, he joined the black insurgents against the French, and, from his gigantic stature, energy, and courage, soon became a leader among them. By Toussaint L'Ouverture, he was appointed brig. gen., and employed to suppress an insurrection headed by Moyse, or Moses, his nephew. C. captured the latter, and, on his execution, succeeded him as gov. of the northern province of French San Domingo. In 1802, he gallantly defended Cape Town when Gen. Leclerc arrived there with a French army intended for the reduction of the blacks, and effected his retreat with 3,000 men, after having burned the greater part of the town. The perfidious seizure of Toussaint, he amply revenged, and during the short lived government of Dessalines, who was slain by a military conspiracy 1806, Oct., C. was gen.-in-chief of the Haytian army. In 1807, Feb., he was appointed pres. of Hayti for life. A republic being, about the same time, organized at Port-an-Prince, with Petion at its head, civil war commenced between them. 1811, Mar. 28, C. was proclaimed *king* of Hayti, by the name of Henri I.,

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and solemnly crowned, 1812, June 2. In 1814, he and Petion suspended hostilities, and by his power and skill, C. was enabled to counteract the attempts made by France to regain authority in the island. His avarice and cruelty led to an insurrection, which was aided by Gen. Boyer, who had succeeded Petion 1818; and the rebellion having spread to Cape Town, C.'s deposition was proclaimed, at the head of the troops, by the Duke of Marmalade, one of the first dignitaries in the kingdom, and C., deserted by his body-guard and all his nobles, shot himself. He left a code of laws, which he called the 'Code Henri,' in imitation of the Code Napoleon.

CHRISTOPHER, HERB: see ACTÆA.

CHRISTOPHER, *kris'to-fér*, SAINT: recognized as saint in the Rom. Cath. and Greek churches. He is supposed to have suffered martyrdom about the middle of the 3d c. According to vulgar legend, C., whose name was originally *Adokimos* (the Unrighteous), was a native of Palestine, Syria, or Lycia, and a person of prodigious bulk and strength. His height was 12 ft. So proud was he of his gigantic frame, that he would serve only the mightiest princes. Having attached himself to one, considered the greatest of his day, C. stayed with him for a short time, but soon discovered that his master was terribly afraid of the devil, in consequence of which, C., with fearless consistency, passed into the service of the latter. One day, however, when the devil and he chanced to be walking through a wood, they came across an image of Christ. His new master exhibited such perturbation and alarm at the sight, that C. entirely lost confidence in him, and resolved to find out the Savior, and follow him as the mightiest one. For a long while he searched in vain, but finally he met a hermit, who showed him Christ, and baptized him. C. despised the customary penances as slight and trivial, and in consequence, it was imposed on him to carry Christian pilgrims on his shoulders over a stream which had no bridge. One day, a little child came to the stream; C. took it on his shoulders, but soon began to sink under the weight of his burden. The child was Christ himself, and, to prove it, he commanded C. to stick his staff into the ground. He did so, and next morning it had blossomed into a palm-tree bearing fruit. This miracle converted thousands to Christianity. C.'s success excited the enmity of Dagnus, the prefect of that region, who put him in prison, scourged him with red-hot rods, put a burning helmet on his head, and clapped him on a burning stool. C. still remained uninjured. Multitudes of poisoned arrows were now discharged against him, but they rebounded from his charmed body, and one even wounded the prefect himself in the eye. C. pitied his tormentor, and freely offered his head to the executioner, that the prefect might be healed by the blood which should flow from it. This was done, and, as a matter of course, Dagnus and his family became Christians. The Greek Church celebrates his festival May 9; the Rom. Cath., July 25.

CHRISTOPHER'S.

St. C. was greatly invoked in times of pestilence, or when people were digging for treasures, to frighten away the spirits who watched over them. The formula used was called a *Christopher's Prayer*. He was also the patron of an order of moderation, founded in Austria 1517, for the purpose of checking excessive drinking and swearing, and which was called the order of St. Christopher.

CHRISTOPHER'S, *kris'to-férz*, St., or, popularly, *St. Kitts*: island near the n.e. bend of the great arch of the Antilles, 46 m. w. of Antigua, 2 m. n. of Nevis. With very unequal breadth, it is 20 m. long from s.e. to n.w., containing about 44,000 acres. Pop. (1901) 29,782. It belongs to Great Britain, and has a legislature of its own, with an executive immediately subordinate to the gov.-in-chief of the Leeward group, residing in Antigua. In 1901, the revenue with Nevis was £43,793, having been only £3,638 in 1834; so that, under the system of free labor, it had increased over twelve-fold in 66 years. During the same interval, the imports had risen in value from £63,018 to £149,729, and the exports from £105,267 to £127,051. The staple exports are sugar, rum, and molasses. The debt of the island in 1902 was £72,000. Education is in a promising condition. In 1876 the average attendance at school was 1,525; two schools obtained a first-class, four schools a second-class, and 14 schools a third-class certificate. The total class and capitation grants which were earned amounted to £577.

The chief towns, both seaports with open roadsteads, are Basse-Terre defended by Fort Smith, and Sandy Point, protected by Fort Charles and Brimstone Hill. Of Fort Smith, the exact lat. and long. are $17^{\circ} 17' 7''$ n., and $62^{\circ} 48'$ w. The mean annual temperature of these places, and of the coast generally, is about 80° F.; but the mornings and evenings, even of the hottest days, are agreeably cool. The length of the island is traversed by a well-wooded ridge of volcanic origin, which has in its centre a crater; and toward the w. extremity of the range, rises the nearly perpendicular crag of Mount Misery, 3,711 ft. above the sea. Over the adjacent slopes, which gradually descend to the water's edge, this central range sends down several streams—almost every plantation, in fact, receiving its rivulet in the rainy season. The springs, though numerous, are yet mostly brackish; and the s. extremity of the island presents a number of salt ponds.

St. Kitts, appropriately named by the natives 'The Fertile Isle,' was discovered by Columbus 1493, and colonized by the English 1623, who were almost immediately joined by some French adventurers. After treacherously exterminating the Caribs, the French and English, often quarrelling, occupied the island till, 1713, the treaty of Utrecht gave the whole to England. In 1782, during the war of American independence, St. Kitts was captured by the French, but restored. 1865, July 31, a terrific fire took place at Basse-Terre.

CHRIST'S COLLEGE—CHRIST'S HOSPITAL.

CHRIST'S COLLEGE, Cambridge: founded by Henry VI., under the name of God's House, and intended by him to consist of a master, 12 fellows, and 47 scholars. In 1505, however, there were only three fellows besides the master, when Lady Margaret, Countess of Richmond and Derby, mother of Henry VII., 'counting herself as of the Lancaster line, heir to all Henry VI.'s godly intentions,' made up the full number, and endowed the college liberally, changing its name to Christ's College. Edward VI. added one fellow, and three scholars; and Sir John Finch and Sir Thomas Baines increased the number of fellows to 15. C. C. possesses many rich benefactions for the encouragement of students, among which are four studentships founded by Christopher Tancred, worth £107 per annum, and tenable for three years after taking the degree of B.A. A student is elected annually before coming into residence. Among the illustrious men connected with this college may be noted Bp. Latimer, John Milton, and Ralph Cudworth, author of the *Intellectual System*.

CHRIST'S HOSPITAL, Newgate Street, London: classical school, organized as a hospital; founded on the site of the Greyfriars' monastery, by Edward VI., 1553, June 26, as a hospital for orphans and foundlings. It is called usually the 'Blue-coat School,' on account of the dress worn by the boys. This consists of a blue woolen gown or coat with a narrow red-leather girdle round the waist, yellow breeches and yellow stockings, a clergyman's bands at the neck, and a small blue worsted cap, but this last they seldom wear, and are generally seen going about bareheaded; such has been the costume of the boys since the foundation of the school in the reign of Edward VI., the persistency in it through successive generations affording a curious instance of the unchangeableness in some English usages. No boy is admitted before seven years of age, or after ten, and none can remain after fifteen, with the exception of 'King's boys' (i.e., those who attend the mathematical school founded by Charles II. 1672) and 'Grecians' (i.e., the highest class of scholars in the hospital), of whom 8 are sent on various scholarships to the universities of Oxford and Cambridge. Altogether, about 800 boys can be admitted. The right of presentation is vested in the managing governors. Those are the lord mayor of London, the aldermen, and 12 common councilmen. Besides these, all noblemen and gentlemen who benefit the hospital to the extent of £400 are governors. The managing governors are the patrons of several churches, chiefly in Surrey and Essex. In 1880 (when changes in the institution were contemplated) the gross annual income was £70,907—mostly from legacies subsequent to the foundation. King Charles II. enriched it by £7,000, with an additional annuity of £370 10s., for the purpose of educating yearly ten boys for the sea-service. Most of the building perished in the great fire of 1666; but, through the generosity of the corporation of London and of wealthy Englishmen, it was soon rebuilt, under the superintendence of Sir Christopher Wren. In the course of time the new hospital fell into decay, and in 1825 a

CHRIST'S THORN—CHROMATIC.

third structure was erected by Mr. Shaw. The great hall of the hospital is a magnificent room, second only to that of Westminster. C. H. is essentially a classical institution, Latin and Greek being the basis of education; but, to meet wants arising from the changed condition of society, the modern languages, drawing, etc., also are taught. In 1683, the governors built a preparatory school at Hertford, where the children are trained till they are old enough to enter the hospital. The *girls*, however, remain permanently here. It can receive about 400 of both sexes. Dependent schools in Newgate street accommodate 1,200 children. Several eminent persons have been educated at C. H., such as Camden, Stillingfleet, Coleridge, and Lamb.

CHRIST'S THORN, n : a prickly shrub, a native of Palestine, and common in the hedges of Judæa—so named from the supposition that from it Christ's crown of thorns was made; the *Palīūrūs aculēātus*, ord. *Rhamnacēæ*: see **JUJUBE**: **PALIURUS**.

CHROMATIC, n. *krō-māt'ik* [Gr. *chrōmatikos*, suited for color—from *chrōma*, color; *chrōmātos*, of color]: relating to colors: see **ACHROMATIC**. **CHROMATIC SCALE** [from the intermediate notes formerly printed in colors]: term applied (improperly) to the scale in music that proceeds by semitones. **CHROMATICALLY**, ad. *-kāl-i*. **CHROMAT'ICOS**, n. plu. *-iks*, that part of the science of optics (q.v.) which explains the properties of the colors of light and of natural bodies. Before 1666, when Sir Isaac Newton began to investigate this subject, the notions which prevailed respecting the nature of colors were merely fanciful. Till Descartes' time, indeed, it seems not to have been conceived that color had anything to do with light. As examples of the notions prevalent at very early times, may be cited those propounded by Pythagoras and Zeno. According to the former, color was the superficies of bodies; according to the latter, it was 'the first configuration of matter'—whatever that may be. It is now settled that white light is not homogeneous, but consists of rays of different colors, endued with different degrees of refrangibility, and that the different colors of bodies arise from their reflecting this or that kind of rays most copiously. According to this, a body that appears red reflects red rays in greater abundance than the others; and one that appears black reflects none of the rays—in other words, absorbs all the light that falls upon it. The analysis of a beam of the sun's light by a prism was the experiment by which Newton demonstrated his great optical discovery of the unequal refrangibility of the variously colored rays, and laid the foundations for the above theory of color. For an account of this experiment, and of the most interesting phenomena presented by the spectrum, see **SPECTRUM**. Newton concluded from his experiments that white light is composed of seven colors, which he called the primary colors—viz., red, orange, yellow, green, blue, indigo, and violet; and that all other shades of color arise from the admixture of these in different proportions. Sir David Brewster, on the other hand,

CHROMATIC—CHROMATROPE.

conceives that he has established that the primary colors are only three in number—red, yellow, and blue. This result he obtained by examining the rays of the spectrum through different absorbing media—a mode of experiment now admitted to be fallacious in principle. Professor Maxwell, by direct examination of the rays, concludes that the three primary colors are red, green, and blue. Recently a theory has been propounded, that all the colors are the results of the admixture of white light and of shade, or darkness; but as yet no attempt has been made to support this theory by direct experiment on the sun's rays. It is rested on results obtained by combining by motion certain proportions of white and black pigments on a revolving card. See LIGHT: DISPERSION: NEWTON'S RINGS.

CHROMATIC, in Music: term applied to a series of notes at the distance of a semitone from each other. Such a series is produced by dividing the whole tones of the diatonic scale into semitones, so that with the two diatonic semitones, already in the natural scale, the octave is divided into 12 semitones. Ascending C. passages are formed by the whole tones of the diatonic scale being raised or elevated by a sharp or a natural, according to key, and descending passages by their being lowered by a flat or a natural, thus:



It is usual to speak of the C. scale, but not with propriety, as it is only a melodious progression of semitones, certain notes of which belong to and form the diatonic scale, showing that the foundation of the system of music does not rest on a C. basis, but on the natural diatonic progression of sounds.

CHROMATOGRAPHY, n. *krō'mă-tōg'ră-fī* [Gr. *chrōma*, color; *graphē*, writing]: a treatise on colors; the art of printing in colors—also called CHROMO-LITHOGRAPHY.

CHROMATOMETER, n. *krō'mă-tōm'ĕ-tér* [Gr. *chrōma*, color; *metron*, measure]: scale for measuring color.

CHROMATOPHORES, n. plu. *krō-măt'ō-fōrēz* [Gr. *chrōma*, color, *chrōmātos*, of color; *phorēō*, I carry]: little sacs containing pigment-granules, found in the integument of cuttle fishes. CHROMATOPHOROUS, a. *krō'mă-tōf'ō-rūs*, containing or secreting coloring matter.

CHROMATROPE, n. *krō'mă-trōp* [Gr. *chrōma*, color; *tropē*, turn, rotation]: an optical apparatus for exhibiting a series of colors.

CHROMATYPE—CHROME.

CHROMATYPE, *krō'ma-tīp* [Gr. *chrome*, color; *typs*, impression]: photographic process, and its result, thus described by its discoverer, R. Hunt. One drachm of sulphate of copper is dissolved in one ounce of distilled water, to which is added half an ounce of a saturated solution of bichromate of potash; this solution is applied to the surface of the paper, and when dry, it is fit for use, and may be kept for any length of time without spoiling. When exposed to sunshine, the first change is to a dull brown, and if checked in this stage of the process, a negative picture results; but if the action of light is continued, the browning gives way, and a positive yellow picture on a white-ground is obtained. In either case, if the paper, when removed from sunshine, is washed over with a solution of nitrate of silver, a very beautiful positive picture results. In practice, it will be found advantageous to allow the bleaching action to go on, to some extent; the picture resulting from this will be clearer and more defined than that obtained when the action is checked at the brown stage. To fix these pictures, it is necessary to remove the nitrate of silver, which is done by washing them in pure water. If the water contains any chlorides, the picture suffers, and long soaking in such water obliterates it—or if a few grains of common salt be added, the apparent destruction is rapid. The picture is, however, capable of restoration, all that is necessary being to expose it to sunshine for a quarter of an hour, when it revives; but instead of being of a red color, it assumes a lilac tint, the shades of color depending upon the quantity of salt used to decompose the chromate of silver which forms the shadow parts of the picture. The substitution of sulphate of nickel for sulphate of copper, has been suggested as yielding a higher degree of sensitiveness and greater definition. Neither process has been much used.

CHROME, n. *krōm*, or CHROMIUM, n. *krō'mi-ūm* [Gr. *chrōma*, color]: one of the metals, so named from the bright colors of its salts. It was discovered by Vauquelin, 1797. C. occurs naturally as the chromate of lead (PbO_2CrO_4); and as the chromite of iron, *chrome iron ore* or *chromic iron* ($FeO_2Cr_2O_4$), found usually in mass, sometimes crystallized in octahedrons, at Unst and Fetlar in the Shetlands, Portsoy in Banffshire, France; and also in Maryland, Pennsylvania, etc. The metal has been obtained in powder and in scales, but as a metal it possesses no interest. The principal compound of C. is the bichromate of potash, obtained by heating chrome-iron ore in powder with one-fourth of its weight of nitre, and then digesting in water, which dissolves out the chromate of potash (KO_2CrO_4), a yellow salt, and when this is acted upon by sulphuric acid, it is converted into bichromate of potash ($KO_2Cr_2O_7$), readily crystallizes in orange-red crystals, which is soluble in water, and is largely used by the dyer and calico-printer. If this salt be added to a solution of lead, an abundant yellow precipitate occurs of chromate of lead (PbO_2CrO_4), or *chrome yellow*, used largely by the painter as a yellow pigment. A sesquioxide of C. (Cr_2O_3), *chromo-*

CHROMIC ACID—CHRONIC.

green, has a bright green color, useful in enamel-painting, and being innocuous, it is now introduced into paper-hangings instead of the highly dangerous arsenical green pigment. The bichromate of potash is used in conjunction with sulphuric acid as an agent in bleaching palm-oil and other oils and fats. CHROMIC, a. *krō'mīk*, of or from chrome. CHROMATE, n. *krō'māt*, a compound of *chromic acid* with a base: CHROMATISM, n. *krō'mā-tīzm*, and CHROMISM, n. *krō'mīzm*, in bot., an abnormal or unnatural coloring of plants: CHROME-OCHRE, -ō'kr, oxide of chrome of a fine yellowish green: CHROMITE, n. *krō'mīt*, or CHROMATE OF IRON, or CHOME-IRON ORE (see above).

CHROMIC ACID: a combination of chromium trioxide and water; chemical formula, H_2CrO_4 . It is a red crystalline solid of powerful oxidizing properties; soluble in water, alcohol, and ether. Its solution in alcohol undergoes decomposition when heated or exposed to light, setting the alcohol on fire. It is used as a substitute for nitric acid in etching processes, in electric batteries, and as a basis for colors; and in surgery as a caustic.

CHROMIC IRON: syn. *Chromite*; a mineral composed principally of oxides of iron and chromium: see CHROME. One typical analysis gives iron protoxide 32%, chromium sesquioxide 68%. Some of the chromium is generally replaced by aluminium and some of the iron by the same or by magnesium. Its color is black or brownish-black; without cleavage; its crystals are octahedral; it is attracted by magnet. It is extensively mined in California and Scotland, as an ore of chromium. Hardness 5·5. Specific gravity, 4·32—4·6.

CHROMOGEN, n. *krō'mō-jēn* [Gr. *chrōma*, color; *gennāō*, I produce]: in bot., the coloring matter of petals; any other coloring matter but green; also, in same sense, CHROMULE, n. *krō'mūl* [Gr. *ulē*, matter].

CHROMO-LITHOGRAPH, n. *krō'mō-līth'ō-grāf*, colloq., CHROMO [Gr. *chrōma*, color; Eng. *lithograph*]: lithograph printed in colors. CHROMO-LITHOGRAPHY, the art of printing in colors: see LITHOGRAPHY. CHROMO-PHOTOGRAPHY [see PHOTOGRAPHY]: the art of producing photographs in their natural colors. CHROMO-XYLOGRAPH, n. -zīl'ō-grāf [Gr. *xulon*, wood, cut-wood]: a wood-engraving printed in colors instead of black from an ordinary block: see under XYLO.

CHROMOSPHERE, n. *krō'mō-sfēr* [Gr. *chrōma*, color; *sphaira*, a sphere]: the outer cloudy envelope around the sun through which the light of the photosphere must pass.

CHROMULE, n. *krō'mūl* [Gr. *chrōma*, color; *hulē*, matter]: any coloring matter other than green; the coloring matter of petals: see EXTRACTS.

CHRONIC, a. *krōn'ik*, or CHRONICAL, a. -ī-kāl [Gr. *chronikos*; F. *chronique*—from Gr. *chronos*, time, duration]: continuing a long time, as a disease; the opposite of acute. CHRONICLE, n. *krōn'i-kl*, history; specially, history in

CHRONICLES.

which events are treated in the order of time. A C. is understood to differ from *annals* in being more connected and full, the latter merely recording individual occurrences under the successive years or other dates. Most of the older histories were called chronicles, such as the *Saxon Chronicle*, *Holinshed's Chronicle*. The term is applied seldom to a modern book, but frequently to a newspaper—for instance, *The Morning Chronicle*. V. to record events in the order of time; to record or register. CHRONICLING, imp. *krön'iklīng*. CHRONICLED, pp. *krön'iklēd*, recorded or registered. CHRONICLER, n. *-klér*, one who; a historian.

CHRONICLES, FIRST AND SECOND Books OF: in the Hebrew canon of the Scriptures, a single book called *Events of the Times*. In the Septuagint this was divided into two, and entitled *Paraleipomena (Things Omitted)*. This name was of dubious propriety, as the book is not a mere supplement to others. Jerome suggested *Chronicon*. The authorship is uncertain. Jewish and Christian tradition ascribes the work to Ezra; but internal evidence argues a later date. E.g., the passage 1 Chron. iii. 19-24 appears to reckon six generations of the descendants of Zerubbabel, whereof Ezra (viii. 2) seems to have been contemporary with the fourth. Ewald supposes the compiler to have been one of the guild of singers, in whose mind the conception of Israel as a nation had contracted to that of Jerusalem and the temple-worship; his view is still theoretical, but municipal, ecclesiastical, liturgical. This was perhaps natural after the long captivity; it was nearly inevitable after the cessation of prophecy. The book of Kings is written in the prophetic spirit; in C. that spirit is absent, and the history is looked at with the eyes of one occupied by temple-functions; and believing that Jehovah is especially if not exclusively present therein. In the books of Samuel and Kings the interests of Providence and of humanity are not localized to this extent; so they contain (from this later view-point) much that is irrelevant or unimportant, and lack much that is of value—as in laying so little stress on the history of the ordinances of worship. The comparatively secular matter seems slurred over or omitted.—Such appears to be the spirit and intent of C.; at the same time, the charges of distortion, invention, and consequent general worthlessness, brought by De Wette and the rationalists, are dismissed or refuted by the best recent critics. The writer simply availed himself of the license of selection, arrangement, and coloring common to all ancient historians, alike sacred and secular. His main source was an extensive work now lost, variously styled 'Book of the Kings of Israel and Judah,' 'Book of the Kings of Judah and Israel,' 'Book of the Kings of Israel,' and 'Affairs of the Kings of Israel.' This is cited some ten times in C., and was apparently used also in preparing the canonical book of Kings, which, however, employed other materials not known to C. C. begins with Adam, and gives nine chapters to the genealogies; here, as elsewhere, these convey statistics in the form of a narrative, the names of individuals sometimes standing

CHRONOGRAM—CHRONOGRAPH.

for branches of a family. Nothing else is retained of the earlier history, the times preceding David's reign affording little to the compiler's purpose. In the account of David and Solomon he pursues a course parallel with Samuel and Kings, but omits many items of personal interest as not bearing on his main theme. In the later annals he neglects the ten tribes, and discusses the affairs of Judah with a view to edification, striving to justify and make prominent God's ways with men in rewarding the good and punishing the rebellious. The writer is a preacher quite as much as a chronicler. His additions to the earlier records deal chiefly with events which serve his purpose of enforcing obedience, or with feasts, appointments of the temple, and Levitical archæology. He ends abruptly with the proclamation of Cyrus to rebuild the temple, and that is left to be continued in the book of Ezra. In general he seems to have followed his sources closely, and when he varies from earlier annals, as in a higher estimate of the numbers of Israel (1 Chron. xxi. 5, cf. 2 Sam. xxiv. 24), he conforms to later usage, and doubtless to accounts that lay before him. Thus his much-disputed account of the captivity and repentance of Manasseh is referred (2 Chron. xxxiii. 18) to 'the book of the Kings of Israel,' and derives support from some Assyrian inscriptions. We have in C. a far narrower view than in some other Old Testament books of the scope of the divine will and the mission of Israel, but there is no reason to distrust the writer's good faith. The many textual and historical difficulties presented by C., of which Jerome complained, have been but partially solved. Keil (1870) and Zöckler (1874) have written commentaries on C.; the best is that of Bertheau (1854, trans. 1857).

CHRONOGRAM, n. *krōn'ō-grām*, or **CHRONOGRAPH** [Gr. *chronos*, time; *gramma*, a writing]: whimsical device of the later Romans, resuscitated during the *renaissance* period, by which a date is given by selecting certain letters among those which form an inscription, and printing them larger than the others. The following C., was made from the name of George Villiers, first Duke of Buckingham:

GEORGIVS. DVX. BVCINGAMIÆ.

The date MDCXVIIII (1628) is that of the year in which the duke was murdered by Felton, at Portsmouth. See Hilton's *Chronograms* (1882). **CHRON'OGRAMMAT'IC**, a. -*măt'ik*, or **CHRON'OGRAMMAT'ICAL**, a. -*i-kăl*. **CHRON'-OGRAMMAT'ICALLY**, ad. -*lī*. **CHRON'OGRAM'MATIST**, a. -*mă-tăst*, a writer of.

CHRONOGRAPH, n. *krōn'ō-grăf* [Gr. *chronos*, time; *grapho*, I write], (sometimes used with the same meaning as *Chronogram*, q.v.): instrument for recording the precise time of an occurrence. A stop-watch is a kind of C.

Benson's C. is intended to measure intervals of time down to tenths of a second, for use at horse-races and other occasions where a seconds watch is not exactly suited. It has an ordinary quick train lever movement, carrying hands which move over a dial. One of these is a seconds hand,

CHRONOGRAPH.

very peculiarly made, being double, consisting of two distinct hands, one superposed on the other. The outer end of the lower-most hand has a small cup with a minute hole at the bottom; while the corresponding end of the uppermost hand is bent over so as exactly to reach this puncture. The little cup is filled with ink, having a consistency between that of writing fluid and printers' ink. Suppose that a horse-race is about to take place. The observer keeps a steady look-out for the fall of the starter's flag, or whatever the signal may be; he gives a pull to a cord or string connected with the mechanism peculiar to the instrument; by this movement, the outer and bent end of the upper seconds hand dips down through the ink-cup in the lower hand, and through the puncture to the dial. A small black spot or mark is thus made upon the dial-plate; and this is repeated as each horse passes the winning-post. A record may thus be obtained to about a tenth of a second.

Strange's C. for a more scientific purpose, is constructed with more careful details. The object is to measure extremely short intervals of time, for the determination of longitudes in great trigonometrical surveys. The observer, when a particular star traverses the field of his telescope, touches a small ivory key; and on the instant, a dot or mark appears on a sheet of paper coiled round a cylinder. The instrument being connected with an astronomical clock, there is a dot made for every beat of the pendulum; and as these dots are a considerable space apart (considerable, that is, for the refined instruments of the present day), it is possible to determine so wonderfully minute an interval as one hundredth of a second.

In the very elaborate galvanic chronographs made by the Messrs. Dent, for astronomical purposes, the lapse of every second in the minute, save the 60th, is pricked on a cylinder covered with paper; and the touching of a stud by an observer causes an observation-pricker also to puncture the cylinder. By measuring the relation of the latter mark to the preceding one, the time can be calculated to the $\frac{1}{100}$ th of a second, and the record is kept for reference. (See description in *Nature*, vol. xxiii.)

A *recording* C. was designed by Prof. C. A. Young, 1866, to mark the instant of observation in hours, minutes, seconds, and hundredths of a second, in *printed* characters, and in a form suitable for preservation and reduction.

Chronographs connected with electric and magnetic apparatus are used for determining the velocity of projectiles. Many forms have been devised by Noble, Bashforth, Navez, Le Bouleugé, and other inventors. The general arrangement consists in causing the bullet to pass through a series of screens; the rupture of each screen breaks for a moment the continuity of an electric current, sets in action an electro-magnetic apparatus, and makes a permanent mark or record. CHRONOG'RAPHER, n. -rä-fér, a chronologist.

CHRONOLOGY.

CHRONOLOGY, n. *krō-nōl'ō-jī* [Gr. *chronos*, time or duration; *logos*, discourse: F. *chronologie*]: the science that treats of the dates of past events and arranges them in order; the method of measuring or computing time. **CHRONOLOGICAL**, a. *krōn'ō-lōj'ī-kāl*, or **CHRON'OLOG'IC**, a. -*ik*, relating to chronology; containing an account of past events in the order of time. **CHRON'OLOG'ICALLY**, ad. -*lī*. **CHRONOLOGIST**, n. *krō-nōl'ō-jīst*, or **CHRONOL'OGER**, n. -*jer*, one who endeavors to discover the true dates of past events, and to arrange them in order; one who is versed in chronology.

CHRONOL'OGY: science of the divisions of time, and of the assignment of dates of past events. It has two main branches—mathematical C. and historical C. Mathematical C. is engaged with such of the units for the measurement of time as begin and end with the period of complete evolution of recurring celestial phenomena: see CALENDAR: YEAR: MONTH: DAY; and CYCLE. Historical C. uses these units among others to measure the distance in point of time between events, and to fix their *dates*. As in geography and navigation, longitude is measured from some arbitrary line such as the meridian through Greenwich, so in historical C., *dates* are fixed by giving their distance from some arbitrary point of time, chosen usually because of some remarkable occurrence which signalized it. Such a fixed point, or *epoch*, forms the beginning of an *era*, though in common usage these two words are not always exactly discriminated. It is thus that *dates* have been aptly said to be to events in history what the latitude and longitude of places are to the places in geography and navigation. The mathematical, or, to speak more properly, the astronomical units of time above referred to have not been the only units used in historical C. In early times the more accurate methods of mathematics were unknown, and such vague periods as 'a generation,' or the lifetime of leading persons in a nation, such as the priestesses of Juno, or of the kings, were assumed as units in historical C. The great variety of eras, too, in ancient times confuses the student. Thus the era of the Greeks began with the year of the first olympiad, or that in which Coroebus was victor; being the first celebration of the games at which the victor's name was recorded, and which is calculated to correspond to the year b.c. 776. From this epoch, the Greeks measured time by olympiads or periods of four years. Thus, the 3d year of the 12th olympiad would be b.c. 729. The Roman era was reckoned from the founding of the city, being either b.c. 752 or 753. The Roman practice of dating events from the building of the city, seems the first instance of the method of reckoning time from a fixed point by single years, and thus forms one of the great stages in chronology. The Mohammedan era commences with the flight of Mohammed, A.D. 622, called the *Hedjrah* (q.v.). The Roman and Greek methods of measuring time continued in use long after the birth of Christ; the olympiads, indeed, appear to have been employed in Europe till the 304th olympiad, or A.D. 440.

CHRONOLOGY.

From A.D. 312, however, the public mode of computation throughout the Roman empire was by indictions, which were periods of 15 years, beginning with 312 (see INDICATION); and this mode was at one time almost universally followed in the west, and in France, was not altogether discontinued till the end of the 15th c. The Christian era or era of the Incarnation, is said to have been first proposed A.D. 527, and is now universally used in Christendom, and even by some non-Christian nations. Part of the business of C. is to determine the relationships of the different eras, so as to enable one to express, in the language appropriate to one mode of computation, the date of an event recorded in another. Owing to the birth of Christ being a comparatively recent event, the Christian era is attended by the inconvenience of counting backward from it for the dates of occurrences prior to it. To obviate this, various comprehensive periods, such as the Julian and Louisiana periods have been invented, applicable to most events within the limits of history.

Various systems of C., such as the Chinese, Babylonian, Egyptian, Indian, and Chaldaean, are worthy of attention. For accounts of the periods which these nations respectively assign to their histories, see CHINESE EMPIRE: BABYLON: etc. Of *Sacred* C. there have been various systems. In these the epochs are the creation of the world, and the flood; but the chief copies of the Old Testament do not agree as to the dates of these events. While the Hebrew text reckons 4,000 years from the creation to the birth of Christ, and to the flood 1,656 years, the Samaritan makes the former much longer, though it counts from the creation to the flood only 1,307 years. The Septuagint version differs from both. It removes the creation of the world to 6,000 years before Christ, and 2,250 years before the flood. In the lack of historic data these differences are impossible of reconciliation. The Bible makes no attempt at a scientific C. any more than at a scientific treatment of other departments of human inquiry. It is now, however, universally admitted, that the creation of the world is not to be regarded as having occurred even so recently as B.C. 6,000. The modern and doubtless the most reasonable understanding of the first chapter of Genesis leaves the period of the creation quite indefinite, and one modern scheme of interpretation stretches out the days of creation into periods of indefinite length. The *Newtonian* C. was an attempt, now generally admitted to have been unsuccessful, to rectify the obvious blunders of ancient chronologers, by determining certain epochs by means partly of astronomical calculations, and partly of the critical examination of such chronicles as measured time by reigns and generations. By a very fine argument, the soundness of which has since been found questionable, Newton set down the date of the Argonautic expedition as being 43 years after the death of Solomon or B.C. 937.

The computation of time by divisions or periods, so as to fix dates by bringing them into relation with each other, seems to have been practically unknown till B.C. 8th cen.

CHRONOMETER.

tury. In the earlier ages no records were made, and when they began to exist they perished through neglect, accident, or the religious or patriotic bigotry of discoverers and conquerors. Thus the first annals of Greeks, Etruscans, and Romans are lost; the traditions of the Druids were neither written nor long remembered; Chi-Hoang-Ti is said to have burned the Chinese books about B.C. 220; and the Spaniards destroyed the Mexican picture-writings. There can be no C. without epochs from which to start, and epochs were long local or at best national. The Greeks, after Timæus, about B.C. 350, reckoned from that olympiad in which Corœbus won at the olympic games, B.C. 776; the Babylonians from the era of Nabonassar, B.C. 747; and the Romans from the foundation of their city, variously placed from B.C. 747 to 753; the latter date, given by Varro, is now agreed on. Des Vignoles collected over 200 estimates as to the creation, which vary from B.C. 3483 to 6984; yet an Indian era places it at B.C. 3102. Abp. Usher's computation, B.C. 4004, though highly arbitrary, has been generally accepted, and agreement is everything here. The chronologic efforts of Berosus, Manetho, Eratosthenes, and Apollodorus (B.C. 3d and 2d c.) were well-intentioned rather than successful, for their works survive only in fragments. In computing from any epoch, the month and day (if known) must be considered as well as the year; e.g., the olympiads were counted from July 1, and American copyrights were long dated in such a 'year of the independence of the United States,' reckoning from 1776, July 4. An approximate list of eras, epochs, or periods, with their dates of commencement as known or supposed, is here subjoined:

	B.C.
Grecian, mundane.....	5598, Sep. 1.
Constantinople, civil.....	5508, Sep. 1.
Alexandria.....	5502, Aug. 29.
Antioch, mundane.....	5492, Sep. 1.
Julian period.....	4713, Jan. 1.
Mundane, Usher.....	4004, Oct.
" Jewish.....	3761, Oct.
Abraham.....	2015, Oct. 1.
Olympiads.....	776, July 1.
Rome	753, Apr. 24.
Nabonassar.....	747, Feb. 26.
Metonic Cycle.....	432, July 15.
Macedonian (Seleucidæ)	312, Sep. 1.
Tyrian.....	126, Oct. 19.
Sidonian	110, Oct.
Caesarean of Antioch.....	48, Sep. 1.
Julian year.....	45, Jan. 1.
Caesarean of Spain	38, Jan. 1.
Era of Actium	30, Jan. 1.
Augustan.....	27, Feb. 14.
	A.D.
Christian (or vulgar).....	1, Jan. 1.
Destruction of Jerusalem.....	69, Sep. 1.
Era of Maccabees.....	166, Nov. 31.
" Diocletian, or of Martyrs.....	284, Aug. 29.
" Ascension.....	295, Nov. 12.
Armenian.....	552, July 9.
Mohammedan Hegira.....	622, July 16.
Persian, of Yezdegird.	632, June 16.

CHRONOMETER, n. *krō-nōm'ē-tér* [Gr. *chronos*, time; *metron*, a measure]. any instrument or machine that measures time, as a clock or a dial; usually a large watch.

CHRONOSCOPE—CHRYSLIS.

fitted with a compensating balance-wheel, and various precautions against irregularity, and constructed with great nicety, for use at sea: see WATCH: HOROLOGY. CHRONOMETRIC, a. *krōn'ō-mēt'rīk*, or CHRONOMET'RICAL, a. *rī-kāl*, pertaining to. CHRONOMETRY, n. *krō-nōm'ē-trī*, the art of measuring time, or of constructing chronometers.

CHRONOSCOPE, *krōn'ō skōp*: instrument contrived by Sir Charles Wheatstone to measure the duration of certain short-lived luminous phenomena, such as the electric spark, of which the eye itself can be no judge, owing to the persistence of impressions of light on the eye after the cause of sensation has ceased. The phenomenon is observed by reflection in a mirror, in such rapid motion that the image of the luminous object would appear to describe a circle, supposing the luminosity to endure long enough. Should the phenomenon be instantaneous, the image will appear as a mere point; should it last for an appreciable time, the image will form an arc, greater or less, of the circle. The electric spark is found by this test to have no duration.

CHROOLEPOID, a. *krō-ōl'ē-poyd* [Gr. *chrōōs*, the skin; *lepīda*, a scale; *eidos*, resemblance]: in bot., made up of small yellow scales. CHROOLEPUS, n. *krō-ōl'ē-pūs*, a curious genus of algæ found on damp walls, etc., having orange tints when fresh.

CHRUDIM, *chrōdīm*: town of Bohemia, beautifully situated on a small river, about 62 m. s.e. of Prague. It is walled, has a noble collegiate church, a high school and Capuchin convent, manufactures of cloth, and very important horse-markets. Pop. (1880) 11,886; (1890) 12,128.

CHRYSLIS, n. *krīs'ā-līs*, or CHRYS'ALID, n. [L. *chrysālis* —from Gr. *chrusallis*, the gold-colored sheaths of butterflies



Chrysalises.

a, Orange-tip Butterfly; b, Black-veined White Butterfly; c, Swallow-tailed Butterfly; d, Purple Emperor; e, Silver-washed Fritillary; f, Duke of Burgundy Fritillary.

—from *chrusos*, gold] the dormant stage which caterpillars

CHRYSANTHEMUM.

pass through before emerging into the winged state, as butterflies, moths, etc., strictly belonging to those *pupæ* of butterflies which are adorned with golden spots, but extended to the pupæ of lepidopterous insects generally, and even of other orders of insects. The chrysalids of lepidopterous insects are inclosed in a somewhat horny membranous case; sometimes very angular, sometimes nearly round; generally pointed at the abdominal end, sometimes at both ends; and before the caterpillar undergoes its transformation into this state it often spins for itself a silken cocoon, with which earth and other foreign substances are sometimes mixed, so as to increase its size, and within which the chrysalid is concealed. Chrysalids are often suspended by cords, and generally remain nearly at rest; some have the power of burying themselves in the earth; others are bound by a single silken thread which passes round their middle (see cut); some twirl themselves round when touched, or when the stalk or leaf to which they are suspended is touched; and in general, they give signs of life, when disturbed, by violent contortions of the abdominal part: see INSECTS: PUPA: LEPIDOPTERA: BUTTERFLY: HAWK-MOTH: MOTH: SILKWORM. CHRYS'ALID, a. -lid, pertaining to a chrysalis.

CHRYSANTHEMUM, n. *kri-să'n é |-mūm* [Gr. *chrusos*, gold; *anthēmon*, a flower]: genus of plants of the nat. ord. *Compositæ*, sub-ord. *Corymbiferæ*; having a hemispherical or nearly flat involucre, with imbricated scales, membranous at the margin, a naked receptacle, the florets of the disk tubular and hermaphrodite, those of the ray strap-shaped and female, the fruit destitute of pappus. The species of this genus are annuals, perennials, or shrubby; and all have leafy stems. They are natives chiefly of the temperate parts of the old world. *C. leucanthemum*, the OX-EYE, or OX-EYE DAISY, is abundant in fields, meadows, and grassy places of woods, in most parts of Europe. It has large flowers, with white ray and yellow disk. It is often a troublesome weed among hay and in pastures; being perennial, and having a creeping brittle root-stock, it is not easily extirpated. CORN MARIGOLD, frequent weed in cornfields, an annual, with large, deep yellow flowers. It is dealt with like annual weeds in general, by pulling it when young. —*C. carinatum*, an annual species with white ray and dark-red disk, the scales of the involucre keeled, native of Barbary, is frequently cultivated in green-houses or—where climate permits—in flower-gardens. The favorite



Chrysanthemum.

CHRYSE—CHYSIPPUS.

species of the gardener is, however, *C. Indicum*, the CHINESE or INDIAN C., native of China, Cochin-China, and Japan, long cultivated in its native countries as an ornamental plant, and of which there are many varieties. Its colors are very various—red, lilac, rose-color, white, yellow, orange, or two colors combined. It flowers in autumn and winter. It is easy of cultivation, thrives best in a light, rich soil, is easily propagated by cuttings, suckers, or parting the roots. It is reckoned among florists' flowers.

CHRYSE (Golden Land): ancient name for the regions of Indo-China.

CHRYSELEPHANTINE, a. *kris'ēl-ē-fūn'tīn* [Gr. *chrusos*, gold; *elephan'ta*, ivory]: made of gold and ivory. The art of making images of gold and ivory was extensively practiced among the Greeks. Winckelmann has calculated that about 100 statues of this kind are mentioned by the ancients. The colossal works executed by Phidias at Athens, in the time of Pericles, are the most famous of this class, the greatest being the Pallas of the Parthenon. It was 26 cubits high, and represented the goddess in armor, covered with a long robe. The famous Olympian Jupiter of Phidias, executed in the same materials, also was a world-wide wonder. The combination of gold and ivory was used chiefly in temple statues; and though the execution of the more famous works of this class belongs to an advanced period of art, the use of various materials in the same statue was very ancient, probably borrowed from the custom of adorning the wooden images of the earliest time with the precious metals. Sometimes, too, the head, the arms and hands, and the feet were of marble, while the rest was of wood, covered with thin plates of gold. These were called aërolites or acroliths (q.v.): see SCULPTURE.

CHYSIPPUS, *kri-sip'pus*: stoic philosopher, b. abt. B.C. 280, at Soli in Cilicia. He came to Athens when a youth, and eagerly addicted himself to philosophical pursuits. His principal master was Cleanthes, though he is said to have studied also under the academic teachers, Arcesilaus and Lacydes, and learned from them what were the objections urged by skeptics against the doctrines of the stoics. He had the reputation of being the keenest disputant of his age, and was happily described as 'the knife for the academic knots.' In fact, his logic was held to be so convincing that people were wont to say: 'If the gods make use of dialectic, it can only be that of Chrysippus.' It is also related of him that he told Cleanthes he wanted to know merely the principles of his system, as he intended to find arguments for them himself; and this story appears to indicate his true position in philosophy. He was not the creator of a new system, but the expounder of an old. C.'s industry was great: he seldom wrote less than 500 lines a day, and is said to have composed more than 700 works. Many of these, however, were compilations, not characterized by great beauty of style. Only a variety of fragments remain, edited by Petersen 1827. For

CHRYYSIS—CHRYSOBERYL.

C. and the stoics, see Zeller's great work on the history of Greek philosophy.

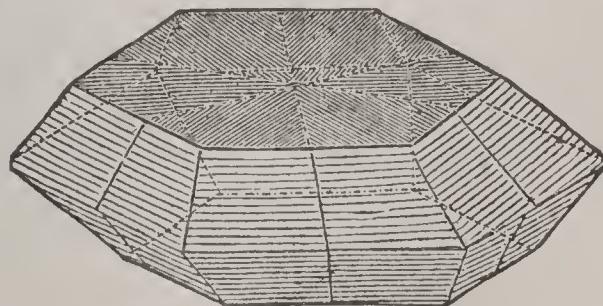
CHRYYSIS, *kris'is*: Linnæan genus of hymenopterous insects, now constituting a family *Chrysidae*, allied to the *Ichneumonidae*, and forming a connecting link between them and bees, wasps, etc. The French call them *quêpes dorées* (gilded wasps), and they sometimes receive the English names of *golden-tailed* and *ruby-tailed flies*. They delight in sunshine, and may be seen poised in the air, the motion of their wings being so rapid as to render the body alone of the insect visible.

CHRYSOBALANACEÆ, *kris-o-bäl-an-ā'sē-ē*, or CHRYSOBALANEÆ, *kris-o-bäl-ān'ē-ē*: according to some botanists, a distinct nat. ord. of plants; according to others, a sub-order of ROSACEÆ (q.v.). They are distinguished from the other plants usually included in the order rosaceæ by their irregular petals, and by having the stamens also irregular, either in size or position; the ovary stalked, its stalk adhering on one side to the calyx, the style proceeding from its base. The fruit is a drupe of one or two cells. The species are trees or shrubs, natives generally of tropical and sub-tropical regions. About 50 species are known. The fruit of many is eatable, as the COCOA PLUMS (q.v.) of the West Indies (*chrysobalanus*), the fruit of *parinarium excelsum* in Sierra Leone, and that of *moquilea grandiflora* in Brazil. The kernels of some resemble sweet-almonds, as those of *parinarium campestre* and *P. montanum*. A useful oil is expressed from the seeds of *princepsia utilis*, a spiny plant, common in parts of the Himalaya Mountains, also planted for hedges in the Khasia hills, 5,725 ft. above the sea; while in Sikkim, it is found only where the elevation is above 8,000 feet.

CHRYSOBERYL, n. *kris'-ō-bér'il* [Gr. *chrusos*, gold; and Gr. *berullos*; L. *beryllus*, beryl]: gem almost as hard as



Right rhomboidal prism; primary form of Chrysoberyl.



A crystal composed of six twins, grouped together laterally, which in transmitted light appears red. From Siberia.

sapphire, and the finer specimens of which are very beautiful, particularly those which show an opalescent play of

CHRYSOCOLLA—CHYSOPHANIC ACID.

light. Lapidaries sometimes call it oriental or opalescent chrysolite. It is of a green color, inclining to yellow, semi-transparent, or almost transparent, and has double refraction. It occurs crystallized in six-sided prisms; often in macles, or twin crystals. It is found in granite, in sandstone, and in alluvial soil; in Ceylon, Pegu, Siberia, Brazil, and Connecticut. It is composed of alumina, glucina, and a little protoxide of iron, the alumina being about 80 per cent of the whole.

CHRYSOCOLLA, n. *kris'ō-kōl'lā*, called also COPPER-GREEN [Gr. *chrusos*, gold; *kolla*, glue]: hydrous silicate of copper; found in Cornwall and in many parts of the world, but particularly in Wisconsin and Missouri, where it is so abundant as to be worked for copper. As a pigment it was much used by the ancients.

CHYSOLITE, n. *kris'ō-līt* [Gr. *chrusos*, gold; *lithos*, a stone]: silicate of magnesia and iron, composed of silica, magnesia, and protoxide of iron; of a fine green color, with vitreous lustre; transparent, and having double refraction; in hardness about equal to quartz; and with conchoidal fracture. It often crystallizes in four-sided or six-sided prisms, variously modified. Very fine specimens are brought from Egypt and from some parts of the east; also from Brazil. C. is used by jewellers as an ornamental stone, but is not highly valued. *Olivine*, which occurs generally massive, in grains and roundish pieces, and is frequent in volcanic countries, and found in the igneous rocks of some parts of Scotland—as on Arthur's Seat—is regarded as a coarse variety of chrysolite. The chrysoberyl (q.v.) is sometimes called C. by jewellers.

CHYSOLORAS, *kris-ō-lō'ras*, MANUEL: learned Greek, of Constantinople; b. middle of 14th c.; d. 1415. He is regarded as the first who transplanted Greek literature into Italy. About 1391, the Byzantine emperor, John Palæologus, sent C. to England and Italy to entreat assistance against the Turks. This mission made C. known in Italy, and in 1397, he left his native land and went to Florence, where, as a teacher of Greek literature, he was highly esteemed and admired. Leonardo Bruno, Poggius, Philoplus, Guarinus of Verona, and other eminent scholars were his pupils. He was afterward employed in public services—especially in mediating a union of the Greek with the Roman church—by Pope Gregory XII. In 1413, C. went with John XXII. to the council of Constance, where he died. Besides theological works, his *Erotemata*, or ‘Accidence of the Greek Language’ (Venice, 1484), has been preserved. Manuel C. must be distinguished from his nephew, John C., who also went to Italy and gave lessons in Greek.

CHYSOMELA and **CHYSOMELINÆ**: see GOLDEN BEETLE.

CHYSOPHANIC ACID, n. *kris'ō-fān'ik ās'īd* [Gr. *chrusos*, gold; *phaino*, I appear]: an acid of the alizarine series contained in rhubarb; a yellow coloring matter, also called *pariētin*, found in the plant *Pamētiā pariētīna*.

CHYSOPHYLL—CHYSOSTOM.

CHYSOPHYLL, n. *kris'ō-fil* [Gr. *chrusos*, gold, *phul-lon*, a leaf]: the golden-yellow coloring matter in many plants and their flowers.

CHYSOPHYLLUM: see SAPOTACEÆ: MONESIA BARK: STAR APPLE.

CHYSOPRASE, n. *kris'ō-prāz* [Gr. *chrusos*, gold; *pra-sōn*, a leek]: merely a variety of chaledony, but valued far above common chaledony as an ornamental stone; so that a stone of this kind, fit for mounting in a ring, is worth from \$50 to \$100. It is of a fine apple-green color in choice specimens, but inferior ones exhibit other shades of green, and it is sometimes spotted with yellowish-brown. It is often set in a circlet of diamonds or pearls. Unfortunately, it is apt to lose its color through time, particularly if kept in a warm place; but dampness is favorable to its preservation, and it is therefore sometimes kept in damp cotton. It is found in Lower Silesia—where the search for it was particularly encouraged by Frederiek the Great—and in Vermont. The inferior specimens are made into brooches, necklaces, etc., and those still coarser, into snuff-boxes, seals, cups, etc. The C. of the ancients was a stone of yellowish-green color, but it is not certain what it was.

CHYS'OPS: see CLEG.

CHYSOSTOM, *kris'os-tom*, or *kris-os'tom*, JOHN [Gr. *Chrysostomos*, golden-mouth; so named from the splendor of his eloquence]: 347–407, Sep. 14; b. Antioch. His mother, Anthusa, was a pious woman, wholly devoted to her son, who grew up under her loving instructions into an earnest, gentle, and serious youth, passing, as Neander significantly observes, through none of those wild, dark struggles with sinful passions which left an ineffaceable impress on the soul of Augustine, and gave a sombre coloring to his whole theology. He studied oratory under Libanius, a heathen rhetorician; soon excelled his teacher, and, after devoting some time to the study of philosophy, retired to a solitary place in Syria, and there read the Holy Scriptures. The ascetic severity of his life and studies brought on an illness which forced him to return to Antioch where he was ordained deacon by bp. Meletius, 381, and presbyter by bp. Flavianus, 386. The eloquence, earnestness, and practical tone of his preaching excited the attention of Jews, heathens, and heretics, and secured for him the reputation of the chief orator of the Eastern Church. In 397, the eunuch Eutropius, minister of the emperor Arcadius, who had been struck by the bold and brilliant preaching of C., elevated him to the episcopate of Constantinople. C. immediately began to restrict the episcopal expenditure in which his predecessors had indulged, and bestowed so large a portion of his revenues on hospitals and other charities that he gained the surname of 'John the Almoner.' He also endeavored to reform the lives of the clergy, and sent missionaries into Scythia, Persia, Palestine, and other lands. His faithful discharge of his duties, especially in reproof of vices, excited the enmity of

CHRYSOSTOM.

the patriarch Theophilus and of the empress Eudoxia, who succeed in deposing and banishing him from the capital. He was soon recalled, to be banished again shortly afterward. He now went to Nicæa, in Bithynia; but was thence removed to the little town of Cucusus, in the desert parts of the Taurus Mountains. Even here his zeal was not abated. He labored for the conversion of the Persians and Goths in the neighborhood, and wrote the 17 letters (or rather moral essays) to Olympias, to whom he also addressed a treatise on the proposition—‘None can hurt the man who will not hurt himself.’ The emperor, enraged by the general sympathy expressed toward C. by all true Christians, gave orders that he should be more remotely banished to a desolate tract on the Euxine, at the very verge of the eastern Roman empire. Accordingly, the old man was made to travel on foot, and with his bare head exposed to a burning sun. This cruelty proved fatal. C. died on the way at Comanum, in Pontus, blessing God with his dying lips. The news of his death excited much sorrow among all pious Christians, for C. was a man who drew the hearts of his fellows after him; a lovable, manly Christian, hating lies, worldliness, hypocrisy, and all manner of untruthfulness, with that honest warmth of temper which all vigorous people relish. A sect sprang up after his death, or martyrdom as they conceived it, called *Johaninists*, who refused to acknowledge his successors; nor did they return to the general communion till 438, when the abp. Proclus prevailed on the emperor Theodosius II. to bring back the body of the saint to Constantinople, where it was solemnly interred, the emperor himself publicly imploring the pardon of heaven for the crime of his parents, Arcadius and Eudoxia. The Greek Church celebrates the festival of C., Nov. 13; the Roman, Jan. 27. In his *Homilies* (Thomas Aquinas said he would not give in exchange those on St. Matthew for the whole city of Paris) C. shows superior powers of exegesis. In general he rejects the allegorical system of interpretation, and adheres to the grammatical, basing his doctrines and sentiments on a rational apprehension of the letter of Scripture. He is, however, far from being a worshipper of the Bible. He recognized the presence of a human element in the Bible as well as a divine; and instead of attempting, by forced and artifical hypotheses, to reconcile what he thought irreconcilable in Scripture statements, he frankly admitted the existence of obscurities and difficulties in the sacred writings, and shaped his theory of inspiration accordingly. But his greatest and noblest excellence lay in that power, springing from the fervor and holiness of his heart, by which the consciences of the proud, the worldly, and the profane were awakened, and all were made to feel the reality of the gospel message. The surname C. was first applied some time after his death, and, as is supposed, by the sixth œcumenical council, 680. C.’s works are very numerous, and consist of, 1st, *Homilies*, on parts of Scripture and points of doctrine; 2d, *Commentaries*, on the whole Bible (part of which has perished); 3d, *Epistles*, addressed to

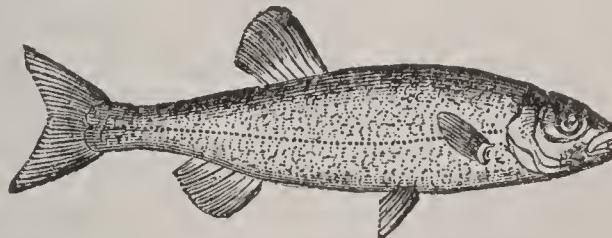
CHRYSOTYPE—CHUB.

various people; 4th, *Treatises*, on different subjects (such as Providence, the Priesthood, etc.); and 5th, *Liturgies*. Of these the most valuable, as well as the most studied, are the *Homilies*, which are held to be superior to everything of the kind in ancient Christian literature.

The most correct Greek edition of C.'s works is that by Henry Savil (8 vols., Eton, 1613), and the most complete Greek and Latin edition is that by Montfaucon (13 vols., Paris, 1718–38; republished 1834–40). The best authority in regard to C. is Neander, who, besides treating of his life and labors in his *Kirchengeschichte*, published a 'life of this eminent father.

CHRYSOTYPE, *kris'ō-tīp* [Gr. *chrysos*, gold; *typos*, impression]: photographic process invented by Sir John Herschel, depending for its success on the reduction of a persalt of iron to the state of protosalt by the action of light, and the subsequent precipitation of metallic gold upon this protosalt of iron. The process is conducted as follows: Good paper is immersed in a solution of ammonio-citrate of iron of such a strength as to dry into a good yellow color, without any tinge of brown in it. It is then exposed to light under a negative until a faint impression is obtained. A neutral solution of chloride of gold is then brushed over the paper, when the picture immediately appears, and is rapidly developed to a purple tint. It should then be freely washed in several changes of water, fixed with a weak solution of iodide of potassium, again thoroughly washed, and dried. The action of the iodide of potassium is to convert any unaltered chloride of gold into a soluble double iodide of gold and potassium, thus rendering the picture permanent.

CHUB, n. *chüb* [Sw. *kubbug*, chubby, fat: Sw. *kubb*; Icel. *kubbr*, a block, a log: comp. F. *chevane*—from mid. L. *capito*], (*Leuciscus Cephalus*): plump river-fish, of the family *Cyprinidae*, of the same genus with the roach, dace, bleak, minnow, etc.: see LEUCISCUS. The color is bluish-black on the upper parts, passing into silvery white on the belly; the cheeks and gill-covers rich golden yellow. The C.



Chub.

rarely attains a weight exceeding five lbs. It is plentiful in many rivers of England, and occurs in some of those of the s.w. of Scotland. In the rivers of Cumberland it bears the name of *Skelly*, supposed to have reference to the size of its scales; but the Schelly of Ullswater lake is the *Gwyniad*, and the C. is there called the *Chevin*. It is found in many rivers of the continent of Europe; being the *Jentling* or *Bratfisch* of the Danube, and the *Jese* of the Oder.

CHUBB—CHUCK.

It spawns in April and May. It is not in great esteem for the table.

The C. rises well at a fly, and takes freely a variety of baits. The same baits and the same means of fishing may be employed as for the barbel and bream. The C. is very fond, moreover, of slugs, grasshoppers, cockchafers, and humble-bees. The latter two are to be used either naturally, by means of dibbing or dapping, or, being imitated, may be used artificially, and cast as a fly. The best flies for the C. are large red, black, and brown palmers, with the hackles laid on thickly. The best places to fly-fish for C. are close under over-hanging boughs at the sides of streams, or against piles, or other places where they can get some shelter, for the C. is somewhat shy and easily alarmed. He is a bold riser, and when he comes at a fly seldom fails to hook himself. When first hooked, he makes a great dash, but he very soon gives in. Of all the baits for bottom-fishing, he prefers greaves, cheese, and worms, and the fatter the bait the better he likes it. He will occasionally run at a minnow, and is often taken on a spinning bait. The C. after spawning in May comes into condition again by the end of June or early in July; bites best, and is in the best condition for bottom-fishing, in Oct. and Nov. Some years ago, the scales of the C. were in much request, in common with those of the bleak, for artificial pearl-makers.

CHUBB, *chüb*, THOMAS: 1679–1746; b. East Harnham, Wiltshire, England: rationalist writer on religious questions. He received but a meagre education in youth, and, after an apprenticeship to a leather glove and breeches maker in Salisbury, he became a tallow-chandler, in which business he continued to the end of his life. His first work, published 1715, was entitled *Supremacy of God the Father Vindicated*. Besides this, he wrote a multitude of treatises on other religious subjects. Among these may be mentioned: *A Discourse on Reason, as a sufficient Guide in matters of Religion*; *On Sincerity*; *On Future Judgment and Eternal Punishment*; *Inquiry about Inspiration of the New Testament*; and *Doctrine of Vicarious Suffering and Intercession Refuted*. This deistical writer shows some intellectual ability, and seems to aim at calmness and candor in argument, but lacked the learning and the training in logic to deal with the themes on which he wrote.

CHUBBY, a. *chüb'bī* [Icel. *kubbr*, a stump: Sw. *kubb*, a stump, a short piece; *kubbug*, fat, plump]: short and thick; fat and plump. CHUB'INESS, n. *bī-nēs*, the state or quality of being chubby. CHUB-FACED, a. *fāst*, having a plump, round face.

CHUCK, v. *chük* [F. *choquer*, to give a shock: Dut. *schokken*, to jolt; *schok*, a jolt: Wall. *caker*, to strike in the hand, to chatter: Turk. *chakıl*, a pebble]: to give a slight blow under the chin so as to make the jaws snap; to throw or pitch a short distance; to strike gently: N. a slight blow, as under the chin; the part of a turning lathe for holding the material to be operated upon. CHUCK'ING, imp.

CHUCK—CHUMP.

CHUCKED, pp. *chükt*. Eng. CHACK-STONE, Scot CHUCKIE-STANE, a pebble. CHUCK-FARTHING, a toss farthing.

CHUCK, v. *chük* [an imitative word: F. *claquer*, to clack, to chatter (see CLUCK)]: to make the noise of a hen when calling her chickens: N. the noise or call of a hen to keep her chickens together; in *OE.*, a chicken—a word of endearment.

CHUCKLE, v. *chük'kl* [Icel. *koka*, or *quoka*, to swallow—from *kok*, or *quok*, the throat: Lith. *kaklas*, the neck: AS. *geagl*, the jaw, the chops: may be connected with either CHOKE, or CHUCK 2]: to laugh inwardly in triumph N. a broken, half-suppressed laugh. CHUCKLING, imp.. ADJ. a suppressed choking approaching to laugh, expressive of inward satisfaction. CHUCKLED, pp. *chük'-kld*. CHUCKLE-HEADED, a. stupid; thick-headed; noisy and empty.

CHUCK-WILL'S-WIDOW, *chük'wilz-wid'ō* (*Antrostomus Carolinensis*): bird of the Goatsucker family (*Caprimulgidae*), native of the southern parts of the United States. It has received its singular name from its note, which resembles these words or syllables articulated with great distinctness, and is repeated like that of the cuckoo, or of its own congener, the Whip-poor-will (q.v.).

CHUCUITO, *chó-kwē'tō*, or CHUQUITO, *chó-kē'tō*: town of Bolivia, in the dept. of Puno, 100 m. e.n.e. of Arequipa, on the w. shore of Lake Titicaca, at the mouth of a stream flowing from the Andes. It was formerly of much greater size and importance than it is at present, having had, it is said, at the beginning of the 18th c.; the incredible number of 300,000 inhabitants. Pop. abt. 5,000. In the province of the same name, of which it is the capital, there are mines of silver and gold, and interesting antiquarian remains.

CHUFF, n. *chüf* [It. *ciuffo*, the snout of an animal: F. *joufflu*, chubby, fat-cheeked: AS. *ceaflas*, chaps, jaws]: a churlish, surly man; a coarse, fat-cheeked fellow. CHUFFY, a. *chüff'i*, surly; churlish; coarse and blunt. CHUFFILY, ad. *chüff'i-lī*, in a surly manner. OLD CHUFF, a surly miser.

CHU-LAN: see CHLORANTHACEÆ.

CHUM, n. *chüm* [a probable contraction of *comrade*, or *chamber-fellow*]: one who lodges in the same room; an intimate companion.

CHUMBUL, *chüm'bül* or *chüm-bül'*: river rising in the Vindhyan Mountains, which form the s. limit of the basin of the Ganges. Its source at a height of 2,019 ft. above the sea, is in lat. $22^{\circ} 26'$ n., and long. $75^{\circ} 45'$ e. During a generally n.e. course of 570 m. it receives many tributaries on both sides, till, in lat. $26^{\circ} 30'$ n., and long. $79^{\circ} 19'$ e., it enters the Jumna from the right, with such a volume of water, that, when itself flooded, it has been known to raise the united stream seven or eight ft. in twelve hours. The C. is remarkable, here and there, for the wildness of its current and its picturesqueness.

CHUMP, n. *chümp* [an imitative word expressive of the

CHUNAM—CHUQUISACA.

thick end of anything, as *chunk* and *hump*: Icel. *kumbr*, a log]: a thick, heavy piece of wood; a lump.

CHUNAM, n. *chó-nám'*: Indian name for a very fine kind of quicklime made from calcined shells or from very pure limestone, and used for chewing with Betel (q.v.), and for plaster. Both recent and fossil shells are used for making C. Extensive beds of fossil shells employed for this purpose occur in the s. of India, particularly in low, marshy situations near the sea-coast. The shells used are in the first place very carefully cleaned; they are then calcined in kilns, with wood charcoal. When chunam is to be used for plaster, it is mixed with fine river-sand, and thoroughly beaten up with water. A little *jaggery* (coarse sugar) is also added. When very beautiful work is desired three coats of chunam are given to the wall, and the result is a plaster almost equal to marble in its polish and beauty. The third coat is applied in the form of a very fine paste, consisting of four parts of lime and one of fine white sand, beaten up with whites of eggs, sour-milk, and *ghee* (butter). After it has been rubbed on with a wooden rubber, the surface is washed with a cream of pure lime, and is rubbed with a polished piece of quartz or rock crystal. During this process, the wall is sprinkled with powder of pot-stone, and the rubbing is continued until the wall is quite dry, every trace of moisture being finally removed by a cloth. C. is an important article of trade in India.

CHUNARGURH, *chún-ár-gér'*, or CHUNAR, *chún'ár*: fortified town on the right bank of the Ganges, 16 m. s.w. of Benares, and in the division of Benares, dist. of Mirzapore, lieut.governorship of the N. W. Provinces. The fortress, which occupies the summit of a sandstone rock, contains the commandant's house, the hospital, the prison, and an ancient palace, with a deeply-excavated well of not very good water. The river in front is navigable at all seasons for vessels of from 50 to 60 tons. Pop. (1891) 12,524.

CHUPATTEE, or CHAPATI, n. *chó-pát'ié* [a Deccan word]: in India, a thick, flat, baked disk of unleavened farinaceous paste; an unfermented cake, used as tokens by the disaffected previous to the Sepoy mutiny.

CHUPRA, or CHUPRAH, *chúp'rá*: town of India, province of Behar, Bengal, on the n. bank of the Ganges, at the mouth of the Gogari, 35 m. n.w. of Patna, 330 m. n.w. of Calcutta. It extends a mile along the river, here navigable only in the rainy season, and is but a few feet above its bank. It has several mosques, pagodas, and churches; most of the dwellings are of mud, with tiled roofs. There is some trade in saltpetre, sugar, and cotton, and a military station near. Pop. (1881) 51,670; (1891) 57,352.

CHUQUISACA, *chó-ké-sá'ká*, or SUCRE, *só'krá*: largest city of the state of Bolivia; lat. 19° 20' s., and long. 65° 30' w. It is on a table-land about 9,000 ft. above the sea, and has a pleasant climate. The town is well built, has a cathedral of great magnificence, a university, a college of arts and sciences, and a mining-school. C. was founded

CHUR.

1538 by Pedro Auzures, an officer of Pizarro, on the site of an old Peruvian town called 'Choque Chaka,' or 'Bridge of Gold,' 'the treasures of the Incas having passed through it on their way to Cuzco.' At one time, C. bore the name of La-Plata, on account of the rich silver mines in its vicinity. Pop. about 20,000.

C. gives names to a territory containing 220,000 whites, besides many native Indians. It has five silver mines in operation, and in it are magnificent ruins of unknown origin. The second name is derived from the general who, 1824, Dec., won, at Ayacucho, the last great battle for colonial independence. Pop. (1900) 196,434.

CHUR, *chör* (Fr. *Coire*, anc. *Curia Rhætorum*): town of Switzerland, cap. of the Grisons, in the valley of the Upper Rhine, in a fertile plain about 2,000 ft. above the sea, and surrounded by high mountains; 60 m. s.e. of Zurich; on the Plessur, about a mile from its junction with the Rhine. It is of importance as standing on the great road to Italy by the Splügen and Bernardin passes, and thus possessing considerable transit trade. C. stands on uneven ground, has narrow streets, and is divided into a high and low town. The bishop's palace, and the quarter around it, inhabited by the Roman Catholics, occupy the summit of an eminence, and are separated from the rest by walls and battlements, closed by double gates. In the same quarter stand the old cathedral, a round, arched, or Byzantine edifice, founded in the 8th c.; the Church of St. Lucius or the *Dom*, a curious example of early-pointed Gothic, including fragments of earlier buildings. It contains singular old carving, paintings, and statues, and also, it is said, the bones of St. Lucius, a British king. Behind the episcopal palace is a kind of ravine lined with vineyards. In the lower town also there are some very ancient buildings. Romansch is still spoken in the vicinity; a newspaper in this dialect is published in the town, and a considerable collection of Romansch literature is in the library of the cantonal schools. There are several new roads leading in different directions through the Grisons; and a railway connects the town with Zurich and other places. There are manufactures of zinc wares and cutting tools. Pop. (1888) 9,380, of whom above 2,000 are Roman Catholics.

CHURCH.

CHURCH, n. *cherch* [Gr. *kuriākon*, the Lord's house—from *kuriōs*, the Lord; *oikos*, a house: AS. *cyrice*: Scot. *kirk*: Ger. *kirche*]: an edifice or a building consecrated or set apart for the worship of God; the collective body of Christians throughout the world; a certain number of Christians holding the same dogmas: V. to perform the office or returning thanks in church for women after childbirth. CHURCH'ING, imp.: N. attending church to offer thanks, as a women after childbirth; usage from an early period, apparently borrowed from the Jewish law, Lev. xii. 6; imperative in the Greek and the Roman Church, and having a plan in the liturgy of the Prot. Episc. Church. CHURCHED, pp. *chercht*. CHURCH-ALE, a feast in commemoration of the dedication of a church, at which much ale was used. CHURCH-LIKE, a. after the manner of a churchman, or becoming him. CHURCHMAN, n. an Episcopalian; a clergyman or member of an established church. CHURCH-MUSIC, music adapted for use in a church. CHURCH-SERVICE, religious service in a church. CHURCH-GOER, a regular attender at church. CHURCH MILITANT, the church on earth as warring against every form of evil. CHURCH-WARDEN, n. -*wár'dn* [Eng. *warden*; F. *gardien*, one who has the ward or guard of a thing]: in Eng., and in the Prot. Episc. Chh. in the United States, an ecclesiastical officer, usually one of two in each parish, who, joined with the vestry, have charge of the church edifice, and of provisions for celebrating public worship, and of parochial interests generally: see CHUCH-RATES: PARISH: VESTRY. CHURCHYARD, n. a burial-ground beside the church: see BURIAL: CEMETERY. Note.—The derivation of *church* from the Gr. is open to question, notwithstanding the high authorities in its favor. The word is found in the Teutonic and Celtic languages with the primary signification ‘a circle of stones,’ thus indicating the sites of the old heathen worship, on or near which Christian crosses and churches were erected in the earliest times. The more recent spellings, as well as the modern spelling, arose from the system of accommodation and corruption which prevailed before our language was fixed. In Scotch, *clachan* means ‘a village in which there is a church or place of worship’—from Gael. *clachan*, a circle of stones. Under the influence of the Greek, together with priestly instruction, it was easy for such a word to assume the northern forms, Dan. *kirke*; Sw. *kyrka*; Icel. *kirkja*; Scot. *kirk*, and the softer AS. form *cyrice*.

CHURCH [see CHURCH (preceding, with its note at the end)]: word signifying either a place of Christian worship, or a collective body of Christian people. The earliest ecclesiastical structures of the Christians were copied or adapted not from the heathen or Jewish temple, as might have been anticipated, but from that peculiar combination of a hall of justice and a market-place to which the name *basilica* was given by the ancients: see APSE: BASILICA. The reason of this selection is found, probably not so much in the spirit of opposition which no doubt existed between Christians and heathens, as in the essentially different concep-

CHURCH.

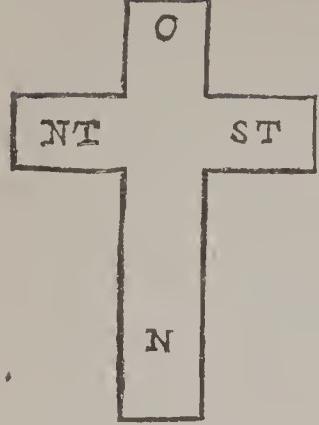
tions which they formed of the character and objects of public worship. The rites of heathendom were performed exclusively by the priest, the people remaining without the temple; and the temple itself, which was lighted only from the door, or by the few lamps which burned around the image of the god, was regarded not as an assembly-room for worshippers but as the abode of the deity. The dark, mysterious character which thus belonged to it, rendered it equally unsuitable for the performance of liturgical services in which the people were to participate and for the delivery of those public addresses which from the beginning were employed as a means of Christian teaching and exhortation. To such purposes the praetor's court-room, with its surroundings, were readily adapted, by the few simple alterations described in the articles above referred to. But the basilica, as thus altered, was a mere utilitarian structure. It served the purposes of Christian worship, but there was nothing in its form which responded to the feelings of Christian worshippers or tended to awaken Christian sentiments. Now, the cross (q.v.) had been used by Christians from a very early period to indicate their allegiance to the author of their salvation and the object of their faith; and gradually it had become the distinctive emblem of Christianity. Nothing, then, could be more natural than that when it became desirable to give distinctively Christian characteristics to what hitherto had been a heathen structure, this should be effected by such a modification of its form as should convert it into a representation of this sacred emblem. Nor did this alteration lead to any very extensive change on the form of the C., as it had hitherto existed. The basilica frequently had side entrances, either in place of, or in addition to, that from the end. All that was requisite, then, to change its simple parallelogram into a cross, was, that at each side of the building these entrances, in place of direct communications with the exterior, should be converted into passages, or arms running out at right angles, and more or less prolonged, according as the object was to attain the form of a Greek or of a Latin cross (see CROSS). If the C. was to be in the form of a Greek cross the arms were made of the same length with the other two portions into which they divided the building; if the cross was to be a Latin one the portion of the building toward the west was made considerably longer than either of the others. In either case the arms running at right angles to the C., and directly opposite to each other, cut it across, and thus obtained the name of *transepts*.

The external form of the C. being thus indicated, the following were its internal arrangements, and the various adjuncts which in cathedrals and other of the larger churches frequently sprang up around it.

Over the point at which the arms or transepts intersect the body of the cross, a central tower or spire is very frequently erected. From this central tower, or, if the tower or towers are situated elsewhere, from this central point, the portion of the building projecting westward, to

CHURCH.

where the Galilee, or entrance chapel, or, in other instances, the great entrance-door is situated, is called the nave (from *navis*, a ship), while the portion eastward to where the altar, or high-altar, if there be several altars, is placed is called the choir. In the larger and more complete churches, the nave, frequently also the choir, are divided longitudinally by two rows of pillars into three portions, the portion at each side being generally somewhat narrower and less lofty than that in the centre. These side portions are called the isles of the nave, or of the choir as the case may be. In some churches, the aisles are continued along the transepts, thus running round the whole C.; in others, there are double aisles to the nave, or to both nave and choir, or even to nave, choir, and transept.


Church:
C=Choir; N.T.=North
Transect; S. T.=
South Transect; N.
=Nave.

Behind, or to the east of the choir, is situated the Ladye's Chapel, or Chapel of the Virgin, with sometimes a numbers of altars; and it is not unusual for side chapels to be placed at different points along the aisles. These usually contain the tombs of the founder, and of other benefactors to, or dignitaries connected with the church. The extent to which these adjuncts exist depends on the size and importance of the C., and they are scarcely ever alike in two churches, either in number, form or position. Vestries for the use of the priests and choristers are generally found in connection with the choir. Along the sides of the choir are arranged richly ornamented seats or stalls, usually of carved oak, surmounted with tracery, arches, and pinnacles; and among these seats, in the case of a bishop's church, the highest and most conspicuous is the so-called *cathedra*, or seat for the bishop, from which the cathedral takes its name. The larger English cathedral and abbey-churches have usually a chapter-house attached, of various forms, usually octagonal, and often one of the richest and most beautiful portions of the whole edifice. On the continent, chapter-houses are not so common, the chapter (q.v.) being usually held in the cathedral itself, or in one of the chapels attached to it. Cloisters (q.v.) also are frequent, and not unusually the sides of those furthest removed from the C., or chapter-house, are inclosed by other buildings connected with the establishment, such as a library, and places of residence for some of the officials of the cathedral. It is here that, in Rom. Cath. churches, the hall, dormitories, and kitchens for the monks are commonly placed. Beneath the C. there is frequently a Crypt (q.v.). In some cathedral churches, the crypt is in reality a second underground C. of great size and beauty. The baptistery (q.v.) is another adjunct to the C., though frequently forming a building altogether detached. Most of the parts of the C. above mentioned may be traced on the annexed ground-plan of Durham Cathedral; see, also, plans of the cathedrals

CHURCH.

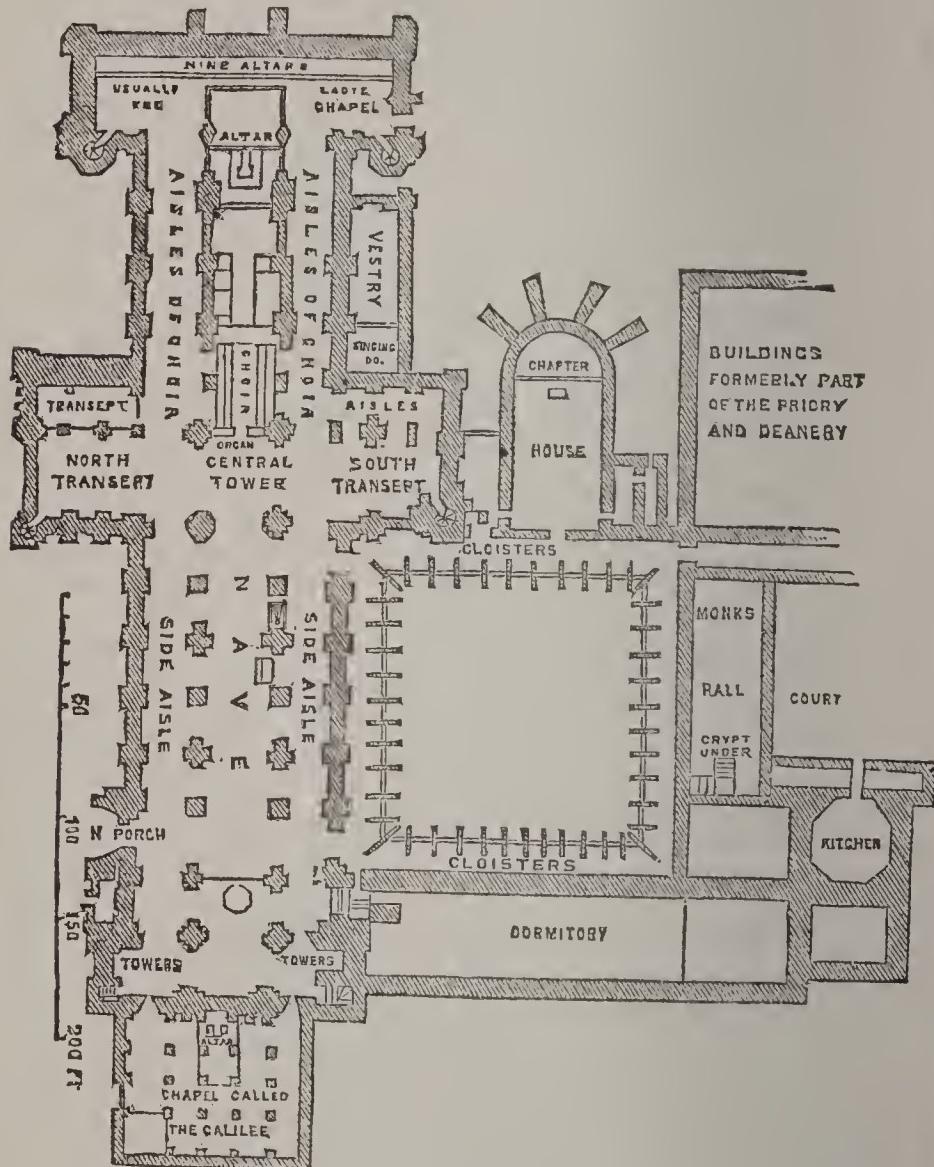
of Salisbury and Amiens under GOTHIC ARCHITECTURE. The position of the nave, choir, or chancel, aisles, and transepts are nearly invariable, but the other portions vary, and are scarcely alike in two churches.

Churches are of five classes—metropolitan, cathedral, collegiate, conventional, and parish churches—and of these the first are, generally speaking, the most, and the last the least, elaborate. In ordinary language, any building set apart for religious ordinances is called a church, though when of a minor kind it is more usually designated a chapel. After a long period of neglect and poverty of taste, the building of churches in a superior style, emulative of the older styles of architecture, has greatly revived, not only in the Church of England, but in the Church of Scotland and nearly all dissenting bodies in Great Britain. The same return to ancient styles is noticeable among nearly all denominations in the United States.

As applied to a collective body of Christian people, the word C. is the translation and equivalent of the Greek word *ecclesia* (Lat. *ecclesia*, Fr. *église*), used in the New Testament. This word, in classical usage, meant the assembly of the citizens called out or summoned; or sometimes a great gathering or throng of people, a company, a congregation. In the New Testament the word was applied by Christ and the apostles to those Christian disciples who in any city or village constituted a company in fellowship; also, collectively, to the whole body of Christ's disciples scattered throughout the world. It is common among Protestants to distinguish between the *visible* and the *invisible* C.—the invisible C. consisting of all those who are savingly or spiritually united to Christ, that is, of all his true disciples, the visible C. consisting of all who profess the religion of Jesus Christ. Roman Catholics do not in the same manner acknowledge the distinction between the visible and the invisible C., but regard a connection with the hierarchy, and consequent participation of ordinances, as establishing a connection with the true C. and with Christ. Protestants regard the C. as subsisting from age to age, in virtue of the authority of Christ, and through the faith of individual disciples which is wrought in them by the Holy Spirit and testified to by their confession of Christ; Roman Catholics regard the apostolical succession of the hierarchy, and the regular administration of the sacraments, as essential to the continued existence of that *Catholic* or universal C. which Christ planted on the earth, and the existence of which he has promised to maintain throughout all ages. Protestants in general regard the C. of Rome and the Greek C. as forming part of the visible C. of Christ, but Roman Catholics are not accustomed to make a corresponding admission with respect to the Protestant churches. From the hierarchical principle of the C. of Rome and of the Greek C., results an employment of the term C. to designate the hierarchy alone, which is contrary to the principles of the Reformation, although a tendency to it may be observed in some Protestant churches. It has been usual for Protestants to designate

CHURCH.

by the term C. the collective body of Christians in a particular country, distinguished by the name of that country; the greater number of Protestants (Episcopalians and Presbyterians) believing that such a portion of the universal C. may warrantably be associated under a common government; and in countries where religious liberty exists, diversities of opinion on points of doctrine and C. government have given rise to the existence of separate Christian associations, distinguished by names generally indicative of some of the peculiarities which characterize them; but



Ground-plan of Durham Cathedral.

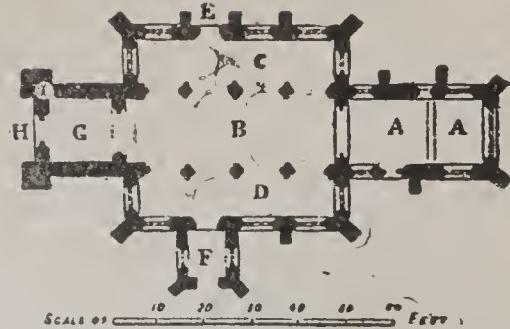
these, however much they may differ on many points, do not in general hesitate to recognize each other as belonging to the universal visible C. of Christ, while they retain in common the same great first principles of the Christian faith, and particularly the belief in the Father and the Son and the Holy Spirit—one God, the incarnation of the Son of God, the atonement by Jesus Christ, and the work of the Holy Spirit. The term C., however, is regarded by Independents or Congregationalists (q.v.) as strictly lim-

PLATE 1.

Chrysanthemum
Ciliated



Yellow Chrysanthemum.



Plan of Islip Church. — AA, Chancel; B, Nave; C, North aisle; D, South aisle; E, North door; F, South Porch; G, Tower; H, West door.



Ciconia.



Islip Church, Nottinghamshire: 1, Eastern end and great east window; 2, 2, Chancel and its windows; 3, End of nave; 4, 4, 4, Clerestory and its windows; 5, South aisle; 6, South porch; 7, Tower; 8, 8, Belfry windows; 9, Spire.



Ciliated Leaf.

CHURCH—CHURCH CONGRESS.

ited, by its use in the New Testament, to these two applications: (1) to those disciples who are or may be united as worshippers in a particular place of worship, partaking of the Lord's Supper together, and administering the fellowship, truth and order of Christ among themselves; and (2) to the church general, the whole body of Christ's disciples scattered throughout the world.

CHURCH, *cherch*, BENJAMIN: 1639–1718, Jan. 17: b. Duxbury, Mass. He served in King Philip's war, commanded the party by which that chief was slain, 1676, Aug. 12, and led five expeditions against the Indians in Maine. He removed to Little Compton, R. I., 1674, and died there. His son Thomas wrote from his notes *Passages Relating to Philip's War* (1716, reprinted 1865).

CHURCH, FREDERICK EDWIN: an American landscape painter; 1824, May 4–1900, April 7. His early productions were views of the Catskill Mountains; others include *View of Niagara Falls from the Canadian Shore*, *The Heart of the Andes*, and *Damascus, Jerusalem, The Parthenon*; etc.

CHURCH, Sir RICHARD: 1780–1873, Mar. 20: general in Greece. After service in the British and Neapolitan armies, he entered that of Greece, was commander-in-chief of the forces in the war for independence, and attempted to raise the siege of Athens 1827. Driven into retirement 1829 and ordered to leave the Greek dominions 1830 by Capo d'Istrias, he did not comply, but remained at Argos, and was again placed at the head of the army 1831. This command he held for many years, was made a councilor of state when Greece became a kingdom, and afterward senator.

CHURCH, SANFORD ELIAS: L.L.D.: 1815, Apr. 18—1880, May 14; b. Milford, Otsego co., N. Y.: jurist. After admission to the bar he settled at Albion, Orleans co., and became an active democrat of the school of Marcy and Silas Wright. He was in the legislature 1842, county attorney 1846–47, lieut.gov. 1851–55, and state comptroller 1858–59. He was an unsuccessful candidate for the last office 1857 and 1863, and for congress 1862; member of the N. Y. constitutional convention 1869, and chairman of its committee on finance. Under the new law he was elected 1870, May, chief judge of the court of appeals, and held that office from 1871, Jan. 1, till his death at Albion.

CHURCH, STATES OF THE: see PAPAL STATES.

CHURCH CONGRESS: a gathering of bishops, clergy, and laity of the Church of England, or of the Prot. Epis. Church in the United States, convened annually for the free discussion of questions of interest and importance. The first was held at Canterbury, England, 1861; the C. C. has since met in various English cities, with large attendance and happy results. The first American C. C. met in New York 1875, Oct., the last at Louisville, Ky., 1887, Oct. Of this body G. D. Wildes, D.D., is the secy. Persons are appointed to read papers or speak on given topics, and space is left for additions to this program. The C. has outlived

CHURCH DIET—CHURCH GOVERNMENT.

opposition, and proved itself certainly innocuous, and it is believed, beneficial.

CHURCH DIET: a German religious assembly (see DIET). The old assemblies of the states were applied in Reformation times to the attempted regulation of ecclesiastical affairs, and diets were held at Worms 1521, at Nuremberg 1523, 24, at Spires 1526, 29, at Augsburg 1530, 47, 48, 50, and at Ratisbon 1541, 46, and 57.—After the revolutionary movements of 1848, which were thought to endanger the cause of religion, free gatherings of ministers and laymen of the Lutheran, Reformed, and United Evangelical bodies arose, and have since been continued annually, with published reports of each. At first the high, rigid, or extreme Lutherans joined with the others, but since 1860 the more pronounced Protestant or ‘evangelical’ parties have conducted the diet.

CHURCH DISCIPLINE (*Disciplina ecclesiastica*): all the means employed by the Christian Church, besides the ministration of the divine word and the ordinances of Christ, to secure on the part of its office bearers and members a faithful adherence to their profession and a corresponding blamelessness of life. It rests upon the authority of Christ, and at the same time necessarily arises, in some form of it, out of the very constitution of the church as a society. Among the early Christians it soon assumed forms of great severity toward offenders, especially toward the *Lapsed* (q.v.). At a later period, the discipline of the church was exercised chiefly with respect to persons accused of heresy and schism. The penances of the Church of Rome have long formed an important part of its discipline, and therewith its *Indulgences* (q.v.) are closely connected, as well as its doctrine and rule of *Auricular Confession* (see CONFSSION). In the Protestant churches, public confessions of sins by which public scandal has been given, and submission to public rebuke, are sometimes required. Practices more analogous to those of the primitive church were established in many churches after the Reformation, but in general have fallen greatly, or entirely into disuse. The power of exclusion from the Lord’s Supper, and from the rights and privileges of church membership, is, however, generally retained and exercised, until, by profession of repentance, and by reformation of life, the cause of such exclusion is removed; and ministers or other office-bearers are, upon offense given in their doctrine or conduct, suspended from their functions, or altogether deposed from their ministry. The exercise of C. D. belongs more or less exclusively to a hierarchy, or to the office-bearers assembled in church-court, or to the members of each congregation, according as the church is Episcopalian, Presbyterian, or Congregational in its church-government. There is an increasing tendency among Christians in general to scrutinize closely the claim of right to exercise C. D., and the limits within which it may be exercised.

CHURCH GOVERNMENT: ecclesiastical constitution

CHURCH HISTORY.

and rules. The Christian Church, like every other society, must have a certain constitution and rules according to which its affairs are administered. It is disputed, however, among Christians, how far this constitution has been defined, or these rules prescribed by divine authority, and how far they have been left to the discretion of men; and among those who find an authoritative system of C. G. laid down in the New Testament, there is debate as to the principles of the system there shown. The form of C. G. depends primarily on the idea entertained of the constitution of the church. Congregationalists (q.v.), including Baptists, and others of differing denominations, with like views of church polity, tend by their principles to reduce C. G. to a simple fellowship of the church in administering the government of Christ alone; which administration they consider as the duty of the members of each congregation of disciples—such congregation being led therein by the bishops (or pastors) whom they elect. Episcopalian and Presbyterians agree that many congregations are to be united under a common government; but, according to Presbyterians, this is properly carried on by ministers and elders of all these congregations in a certain district, or region, or nation, meeting for this purpose on a footing of equality; while, according to the Episcopalian, the government is more or less absolutely in the hands of bishops, who are considered as forming an order in the ministry superior to the mere pastors of congregations: see EPISCOPACY: PRESBYTERIANISM: CONGREGATIONALISM.

It is increasingly evident that the real differences as to church organization consist not in the mere adoption of one of these three modes and the rejection of the other two, so much as in deep convictions or fervent feelings on certain points of doctrine, such as the grace in sacraments, or the indispensableness of an authoritative system of orthodox intellectual beliefs, or the nature of the sin of schism, or the necessity of keeping a traceable historic connection with the church of all the past. The evidence of this is seen in the fact that under almost every form of church organization, the three modes—Episcopal, Presbyterian, Congregational—are always essentially present and often recognized, each as a needful check on the others.

CHURCH HISTORY, or ECCLESIASTICAL HISTORY: one of the most important parts of the general history of mankind; intimately connected not only with the political history of the world but with the history of philosophy, of literature, and of civilization. The sources and authorities are extremely various, and their due appreciation often requires as much judgment as their exploration requires toil. C. H. is either general—embracing a view of the affairs of the church in the whole world from the beginning to the present day—or particular, relating to some particular country, or period, or portion of the church. By some authors it has been treated chiefly with regard to the outward affairs of the church; and by others, with reference to doctrine, morals, and the evidences of spiritual life; while others still have devoted

CHURCH HISTORY.

their attention chiefly to the forms of worship, the constitution of the church, and other things generally comprehended under the name of ecclesiastical antiquities. All these, of course, have important relations to each other. The earliest writers of C. H. were in general mere chroniclers, following the order of time. In the great work of the Magdeburg centuriators, a method was adopted, of which there had been previous examples, and which afterward became frequent, of treating each century separately, the centuries being subdivided according to convenience of subjects; but arrangements less mechanical and arbitrary have been adopted by the most eminent modern authors. With much diversity on minor points, there is general agreement in dividing the whole history of the church into three great periods: the first, from our Savior to the time of Constantine; the second, from that time to the Reformation; and the third, from the Reformation to the present day.

The earliest facts of C. H. are to be learned only from the New Testament, after which, however, the epistles and other writings of the apostolic and other primitive fathers, afford sources of information, unfortunately, very scanty. Hegesippus, who wrote about the middle of the 2d c., has transmitted to us some very imperfect memorials of these early times; but the first proper ecclesiastical history is that of Eusebius of Cæsarea (324). This work was continued to the 5th c. by Socrates Scolasticus, Hermias Sozomenus, and Theodoret. Similar compilations were executed by Lactantius, Epiphanius, Hieronymus, Theodoret of Cyrus, Philostorgius, and Zosimus. In the 6th c. the ecclesiastical historians are: Theodorus Lector, Evagrius, and Nicephorus Callistius; in the 8th the venerable Bede and Paul Warnefried; in the 9th Theophanes Confessor, Claudio of Turin, Haymo of Halberstadt, Scotus Eriena, and Hinkmar of Rheims; in the 12th and 13th, Photius, Simeon Metaphrastes, Theophylact, Matthew Paris, Albert of Strasburg, and Ptolemy of Lucca; in the 15th Laurentius Valla is the most conspicuous name. Protestant writers were the first to treat C. H. in a critical and scientific manner. This was natural, for their position as apparent schismatics compelled them to vindicate historically the changes to which they had wrought in the character of the church. Hence their writings were of an apologetic and polemical cast. The first work of this kind was the *Magdeburg Centuries* (q.v.), published by Matthias Flacius. Special histories of the Reformation were composed by Sleidan and Seckendorf. In the 17th c. Calixtus distinguished himself in this department, and after him Thom. Illig, Adam Rechenberg, and Thomasius. The new life that awoke in Germany toward the middle of the 18th c. produced a multitude of church-historians, notably Arnold, C. M. Pfaff, Mosheim, Semler, and J. Matth. Schröckh; while in still more recent times, Marheineke, Danz, Neander, Gieseler, Hagenbach, and Kurtz, have achieved the highest distinction in the same sphere of labor. But others besides the Lutheran divines have ren-

CHURCHILL.

dered valuable services to church history. The Reformed Church boasts the eminent names of Du Moulin, Joh. Daläus, Blondel, Hottinger, Spanheim, Turretin, Venema, Jablonski, and recently, D'Aubigné; while among Englishmen, Usher, Pearson, Bingham, Lardner, and recently Milman and Maurice, have won a distinguished place. Scotland has few names, the chief being Calderwood, Wodrow, McCrie, and recently Cunningham. In the Rom. Cath. church, since the Reformation, ecclesiastical historians have rarely aimed at a philosophic spirit, but have appeared mainly in the character of defenders of the papacy. The greatest names in C. H. in Rom. Cath. France are Tillenmont, Bossuet, Bayle, Du Pin, Thomassin, and Fléury. Among Italians may be mentioned Orsi, Saccharelli, Pallavicini, Guicciardini, and Muratori; and among the Roman Catholics of Germany, Danneimayr, Count Stolberg, Ritter, Hortig, and Döllinger. The method of F. C. Baur (q.v.), developed by him especially with regard to the first three centuries of the Christian Church, has deeply influenced all subsequent writing of church history. Recently the best works have been monographs and histories of limited periods.

CHURCHILL, *cherch'il*, CHARLES; English poet, now remembered almost as much for his profligacy as for his poetry; 1731-1764, Nov. 4; b. Westminster; where his father was a curate. He was educated at Westminster school, and in his 17th year made a clandestine marriage. In 1756, he was ordained, and two years afterward succeeded his father as curate of St. John's, Westminster. Soon after his transference here, he fell into habits very ill-becoming his clerical character. In 1761, he published (at his own risk, the booksellers having refused him five guineas for it) *The Rosciad*, a satire on theatrical managers and performers, which displayed much critical acumen, clever sarcasm, and no little humor, and had such immense success that C., who on its publication had withheld his name, was soon delighted to avow himself author. In the same year appeared *The Apology*, a bitter satire on some of his critics, which added alike to his purse and his notoriety. He now totally neglected the duties of his office, was a constant attender at theatres, and altogether led a most dissolute life. His parishioners were scandalized, and his dean remonstrated, whereupon C., to show his utter contempt for the ministerial profession, appeared in a blue coat, gold-laced hat and waistcoat, and large ruffles. He was obliged, however, to resign his preferment, which pecuniary sacrifice was little, as his works brought him considerable sums. He further displayed the complete licentiousness of his nature by separating from his wife, and seducing the daughter of a tradesman in Westminster, and by endeavoring to excuse his vices in a poem called *Night*, on the ground that avowed profligacy was more harmless than profligacy practiced in concealment. The boon-companion of as great a debauchee as himself—Wilkes—he contributed to the pages of the *North Briton*, among other things, *The Prophet of Famine*, *A Scots Pas-*

CHURCHILL—CHURCH RATES.

toral, one of the best of his satires.

CHURCHILL, JOHN: see MARLBOROUGH.

CHURCHILL, RANDOLPH HENRY SPENCER, Lord: Second son of the sixth Duke of Marlborough: 1849, Feb. 13-1895, Jan. 24; entered Parliament in 1874; was a recognized leader of the Conservative party; and became Indian secretary in Lord Salisbury's government in 1885, and leader of the House of Commons and Chancellor of the Exchequer, 1886. In 1874 he married Miss Jennie Jerome of New York city.

CHURCHILL, or MISSINNIPPI, *mís-sín-níp'pi*, or ENGLISH, RIVER: in British America. It rises in the prov. of Saskatchewan, lat. 55° n., long. 111° w., or, as some say, in Lake Methy, further n.e.; flows e. and n.e. through Lakes Buffalo, La Crosse, and Nelson, and falls into Hudson's Bay in lat. 59° n., long. 94° w.

CHURCHILL, WINSTON: an American author; b. 1871, Nov. 10, in St. Louis, Mo.; was graduated at the U. S. Military Academy 1894; became editor of the *Army and Navy Journal* and of the *Cosmopolitan Magazine*. Subsequently he turned his attention to fiction, writing *The Celebrity*, *Richard Carvel*, etc. He should not be mistaken for Winston Churchill, son of the late Lord Randolph Churchill.

CHURCH OF ENGLAND: see ENGLAND, CHURCH OF.

CHURCH OF GOD: see WINEBRENNARIANS.

CHURCH RATES, in England: tax or assessment laid on the parishioners and occupiers of land within a parish, by a majority of their own body in vestry assembled, for the purpose of upholding and repairing the fabric of the church and the belfry, the bells, seats, and ornaments, the church-yard fence, and the expenses (other than those of maintaining the minister) incident to the celebration of divine service. The parishioners are convened for this purpose by the church-wardens (q.v.). The chancel (q.v.) being regarded as belonging peculiarly to the clergy, the expense of maintaining it is laid on the rector or vicar, though custom frequently lays this burden also on the parishioners, as in London and elsewhere.

The C. R. were anciently a charge on the tithes of the parish, which were divided into three portions: one for the structure of the church, one for the poor, and the third for the ministers of the church. This distribution is said to have originated with Pope Gregory, who enjoined St. Augustine thus to divide such voluntary offerings as might be made to his missionary church in England. A canon of Abp. Ælfric, 970, and an act of the Wittenagemote, 1014, in Ethelred's time, have been quoted in proof of the recognition of this rule by the Saxons of that age. It seems to have been their custom, also, to devote to the repair of each church a portion of the fines paid for offenses committed within the district attached to it; and every bishop was bound to contribute to the repair of his own church from his own means. A third of the tithes thus originally devoted to the repairs of churches continued to be applied

CHURCH RATES.

to that purpose under the Normans down to the middle of the 13th c.; and the manner in which this burden came to be shifted to the parishioners has been a subject of much discussion among legal antiquaries. Lord, then Sir John, Campbell, who published a pamphlet on the subject in 1837, is of opinion that the contributions of the parishioners were at first purely voluntary, and that the custom growing, it at last assumed the form of an obligation, and was enforced by ecclesiastical censures. The care of the fabric of the church, and the due administration of its offices are laid upon the ministers and the church-wardens conjointly, and the latter may be proceeded against by citation, in the ecclesiastical courts, should they neglect these duties. But there is no legal mode of compelling the parishioners as a body to provide the rate, and this circumstance has occasioned much difficulty in imposing the tax in parishes in which dissent is prevalent, and led to many churches falling into a partially ruinous condition. The proper criterion for the amount of C. R. is a valuation of the property within the parish, grounded on the rent that a tenant would be willing to pay for it. Glebe land, the possessions of the crown in the actual occupation of the sovereign, and places of public worship are not liable for C. R.; but there is no other exception as regards immovable property, and in some parishes, custom even extends it to stock in trade. It has been often decided in the courts that a retrospective church-rate—i.e., a rate for expenses previously incurred—cannot be validly imposed. Much difficulty has been experienced in recovering the rates imposed by the parish on individuals refusing to pay. In 1868 an end was put to all parochial contentions by enacting that no suit or proceeding should thereafter be allowed in any court to enforce or compel payment of a church-rate, except where a local act authorized this rate. But except so far as related to the compulsory payment of these rates, the church-wardens might, as before, make, assess, receive, and deal with such rates. In each district parish the inhabitants may treat their own church as if it were their parish church, and make and receive rates for the repair of the same. A body of trustees may now be appointed in each parish to receive contributions for ecclesiastical purposes in the parish. The result of this act of 31 and 32 V. c. 109, is thus not to abolish church rates, but rather to convert them into voluntary payments; allowing, as it does, all faithful adherents of the church to contribute, as before, to the repairs of their own churches. In Scotland the burden of upholding the (Presb.) parish churches is by custom imposed on the heritors of the parish; and where the parish is partly within burgh and partly in the country, the expense must be borne by heritors and proprietors of houses, in proportion to their real rent: see SCOTLAND, CHURCH OF: also DISSENTERS: PARISH. Though very little is said on the subject in Scotland, the question is still on the same footing as it used to be in England; and an Episcopalian heritor would have as much reason for refusing to pay the customary parish burdens as

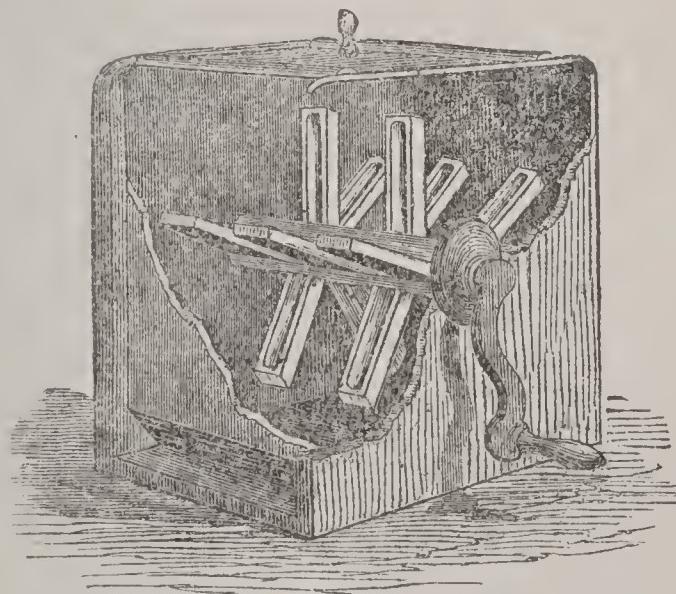
CHURCH ROAD—CHURN.

the English dissenter had for refusing to pay church rates. In Ireland, church rates were abolished 1823.

CHURCH ROAD see HIGHWAYS.

CHURL, n. *chérل* [AS. *ceorl*, a countryman: Dut. *kaerle*; Icel. *karl*, a man, a rustic: Ger. *kerl*, a fellow]: a countryman; a surly man. CHURLISH, a. *chér'lish*, rude; surly; sullen; rough in temper; selfish; said of things unyielding; cross-grained; hard or firm. CHUR'LISHLY, ad. *-li*. CHUR'LISHNESS, n. rudeness of manners or temper.

CHURN, n. *chérn* [Icel. *kjarni*; Ger. *kern*, the kernel, the choice part of a thing—whence Icel. *kirna*; Fris. *kernjen*, to churn: Dut. and Ger. *kernen*, to curdle, to churn]: machine for agitating milk or cream in order to separate the butter: V. to shake or agitate cream in order to make butter. CHURN'ING, imp.: N. the operation of making butter by agitating milk or cream, or the quantity made at one time. CHURNED, pp. *chernd*. For the principle of this operation, see BUTTER. Of the great variety of forms that have been given to the machine, it is difficult to determine which deserves the preference. It is obvious that the more thorough and uniform the agitation, the more completely will the butter be separated from the milk. The consistency and color of the butter also are elements in judging of the relative merits of churning. The temperature of the air and the milk affect the butter in these respects. During summer that of the milk should not exceed 62°, and in very hot weather may be under 60°. During cold weather the milk should be about 2° higher when put into the churn. The speed at which the operation is performed also influences the result. Trials instituted to test the



Anthony's American Atmospheric Churn.

relative merits of churning have failed to settle which is the best form for actual use in the dairy, for the same machine under different conditions does not always yield the same result. The oldest form is the upright or *plunge* churn. There is a general prejudice in favor of this form of C., on the ground that the butter is more completely separated

CHURKUS—CHUSAN.

and of better quality. Its great defect is that the operation, being generally performed by hand, is fatiguing. Recent improvements have aimed chiefly at ease in working, and a saving of time. The original *barrel* C., with a rotatory motion, like a grindstone, which motion was reversed every few rounds, has fallen from high repute into comparative neglect. An improvement on the barrel C. was the making of the barrel stationary, the milk being agitated by internal apparatus fixed on a horizontal spindle which is turned by a winch handle. Barrel churns, sometimes of immense size, are generally used in large dairies in Holland. For small or moderate-sized dairies, perhaps the most suitable is the *box* C., consisting of a cubical or oblong box, of birch or plane tree, having the agitators fixed on a horizontal spindle. Churns on a centrifugal action have also been successfully used, particularly in Sweden. More recently, churns of a barrel form, with an oscillating motion like a child's cradle, have been introduced, but without decisively superior results.

To all forms of churning power other than manual can be applied. In some parts of Europe and America, the dog is employed in churning by means of a contrivance like a squirrel's box. Horse-power is in very general use in large dairies in Great Britain, and in some cases steam-power is used.

CHUR'RUS: see HEMP.

CHURUBUSCO, *chō-rō-bōs'kō*, BATTLE OF: in Mexico, 1847, Aug. 20. After the battle of Contreras (q.v.), fought on the same day, Santa Anna with some 27,000 men made a stand at this hamlet, on the river C., six m. s. of the city of Mexico, to resist the advance of the United States army under Gen. Scott. C. had the strongly-fortified convent of San Pablo and an elevated causeway with a stone bridge across the river. Gens. Worth and Pillow attacked and carried the bridge; the convent, after holding out $2\frac{1}{2}$ hours, yielded to Gen. Twiggs. Gen. Shields, who had been engaged on the right, joined in the pursuit, which extended nearly to the city of Mexico. Of 8,000 United States troops in the two actions there were 139 killed and 926 wounded: the Mexicans lost 4,000 killed and wounded, 3,000 prisoners, 37 guns, many small arms, and much ammunition.

CHUSAN, *chō-sān'*: island on the e. coast of China, 40 m. n.e. from Ningpo; in $30^{\circ} 40'$ n. lat., and $121^{\circ} 48'$ e. long.; of oblong shape, about 50 m. in circumference. It is mountainous; but has many fertile valleys with plentiful supply of water, and is very carefully cultivated by the hardy and independent people by whom it is inhabited. Its flora is rich; azaleas clothe the mountains; clematises, roses, and honeysuckles grow in great luxuriance. The camphor and tallow tree, and many varieties of bamboo, are found in the valleys. Tea is cultivated to some extent on the hill-sides. For three fourths of the year the climate is temperate. June, July, and August are the hot months. In August the thermometer averages

CHUSAN ISLANDS—CHYLE.

83°, but in January and February it is often as low as 20°. Ting-hai, the capital, a walled town about two m. in circumference, containing a fine specimen of Buddhist temple-architecture, surrendered to the British forces, 1840, July 5, and was retaken by them (having been evacuated the previous February) 1841, Oct. 1. At the close of the war the island was delivered up to the Chinese. In 1860, it was again occupied by British troops, but restored by the convention of Pekin. Pop. about 200,000.

CHUSAN ISLANDS: group scattered round the island of Chusan. The most remarkable is the sacred island of Pu-tu, e. from Chusan. It is covered with Buddhist temples, pagodas, and monasteries, which latter are inhabited by a great number of Bonzes, or Chinese priests. The island is devoted exclusively to religious purposes, and no layman is allowed to reside upon it.

CHUSE, v. *chōz*: an old spelling of **CHOOSE**, v. *chōz*.

CHUTIA, or **CHOTÁ**, **NÁGPUR**: see **CHOTA NAGPORE**.

CHUTNEE, or **CHUTNY**, n. *chüt'nī* [Hind. *chatni*]: East Indian condiment, very largely used in India and to an increasing extent in Great Britain. Indian C. is a compound of mangoes, chillies, or capsicum (q.v.), and lime-juice, with some portion of other native fruits, such as tamarinds, etc., the flavor being heightened by garlic. It is sometimes manufactured for sale in England, but not in large quantity. Families occasionally make it for their own use, and employ the following ingredients: Chillies, 1-1½ lb.; apples, 1 lb.; red tamarinds, 2 lbs.; sugar-candy, 1 lb.; fresh ginger root, 1½ lb.; garlic, ½-¾ lb.; sultana raisins, 1½ lb.; fine salt, 1 lb.; distilled vinegar, 5 bottles. The chillies are to be soaked for an hour in the vinegar, and the whole ground with a stone and muller to a paste.

CHYLAQUEOUS, a. *kī-lā'kwē-ūs* [Gr. *chulos*, juice, humor: L. *aqua*, water]: in *zool.*, applied to a fluid, consisting partly of water taken in from the exterior, and partly of the products of digestion, which occupy the body cavity in many invertebrates; applied also to the special canals sometimes existing for its conduction.

CHYLE, n. *kīl* [L. *chylus*—from Gr. *chulos*, juice or humor]: in *animals*, a white or milky fluid separated from the substances digested in the stomach, and conveyed into the circulation of the blood by the lacteal vessels. For the various changes which the food undergoes in the alimentary canal, see **DIGESTION**. One of these changes is its conversion in the stomach into a pulpy mass termed *chyme* (q.v.). The chyme, which passes onward into the small intestine, is acted upon by the bile, pancreatic fluid, and intestinal juice, and through their influences is separated into the *chyle* which is absorbed or sucked up by the lacteals (q.v.) and into matters unfit for nutrition, which ultimately find their way out of the system by the intestinal canal. For the mode in which this nutritious C. is taken up by vessels distributed over the small intestines, and the changes which it undergoes before it is converted

CHYLOPOESIS—CHYTRÆUS.

into true blood, see LACTEALS: THORACIC DUCT: and NUTRITION. When obtained from the thoracic duct of an animal that has been killed while the process of digestion was going on (especially if it had taken fatty food), the C. is a white, milky-looking, or yellowish fluid, with a faintly alkaline reaction. Like the blood, it coagulates in about ten minutes after its abstraction from the body of the animal; and in about three hours a small but distinct gelatinous clot is separated from the serous fluid of the chyle. On examining C. under the microscope, we find that it contains enormous numbers of minute molecules (probably consisting of fat), together with nucleated cells, which are termed the chyle-corpuscles, and are apparently identical with the white or colorless blood-cells. The chemical constituents of C. are much the same as those of blood, fibrin, albumen, fat, extractive matters, and salts being the most important. CHYLIFICATION, n. *kī-lī-fāk'shūn* [L. *factus*, made]: the process of making chyle from food. CHYLIFICATIVE, a. *-tīv*, forming or changing into chyle; having the power to make chyle. CHYLIFEROUS, a. *kī-līfēr'ūs* [L. *fero*, I carry]: carrying chyle. CHYLIFEROUS SYSTEM: see LACTEALS: THORACIC DUCT. CHYLIFIC, a. *-līf'ik* [L. *faciō*, I make]: making chyle, usually applied to a part of the digestive apparatus of insects. CHYLOUS, a. *kī'lūs*, pertaining to or full of chyle.

CHYLOPOIESIS, n. *kī lō-poy-ē'sis* [Gr. *chulos*, juice; *poiēō*, I make; *poiēsis*, a making or forming]: the process of making chyle from food. CHYLOPOETIC, a. *kī lō-pō-ēt'ik*, or CHYLOPOIETIC, a. *-poy-ēt'ik*, making or producing chyle; belonging to the stomach and intestines; — same meaning as 'chylification' and 'chylific,' but more correct in their formation.

CHYME, n. *kīm* [Gr. *chumos*, juice]: the mass of food in the stomach mixed up with the digestion juices as it passes from the stomach: see CHYLE: DIGESTION. CHYME MASS, the central semi-fluid sarcode in the interior of the infusoria. CHYMIFEROUS, a. *kī-mīf'ēr-ūs* [L. *fero*, I bear]: containing or bearing chyme. CHYMIFICATION, n. *kī-mīf'i-kā'shūn* [L. *faciō*, I make]: the process of forming chyme. CHYMIFY, v. *-fī*, to change into chyme. CHYMIFYING, imp. CHYMIFIED, pp. *-fid*. CHYMOUS, a. *kī'mūs*, pertaining to chyme. CHYMIST, n. *kīm'ist*: see CHEMIST.

CHYMIST, CHYMISTRY: other spellings of CHEMIST, CHEMISTRY.

CHYTRÆUS, *che-trā'ūs*, DAVID KOCHHAFF: 1530, Feb. 26—1600, June 25; b. Swabia: theologian. He studied under Melanchthon at Wittenberg, became prof. at Rostock, took high rank among the divines of his time, was a member of the diet of Augsburg, and was trusted and employed by Maximilian II. He helped frame the *Formula Concordiae* and the statutes of Helmstadt, wrote *Chronicon Saxonie*, *Historia Confessionis Augustanae* (1578), *De Morte et Vita Alterna* (1590), and other works, which have been collected in several editions. Schutzius and others have written his life.

CIALDINI.

CIALDINI, chál-dé'nē, ENRICO: 1813, Aug. 10—1892, Sep. 7: b. Modena: Italian general. Designed for the medical profession, he studied at Parma. When the abortive insurrection of 1831 broke out in the duchies C. joined the volunteers of Reggio; and on the capitulation of Ancona, embarked for France, where he resumed his medical studies. The struggles against absolutism in the Iberian peninsula opened anew the career of arms to the Italian exiles. He joined the legion raised by Dom Pedro in France against the Miguelists, when his great personal courage soon secured his promotion; and the unanimous vote of his comrades pronounced him the worthiest man to receive the order of the tower and sword decreed by the government to his company. After the capitulation of Evora, C. joined 1835, Oct. 22, the legion of Oporto, formed under Borso di Carminati for service in Spain. In this force, C. gained further honors. In 1843, he followed Narvaez in his march against Madrid; was made by him colonel of the regiment of St. Ferdinand; and afterward employed in organizing the civil guard on the model of the French *gendarmerie*. He was in this force when Charles Albert headed the Italian rising 1848, when he hurried to Italy, and in the struggle which ensued he received a dangerous wound, and fell into the hands of the Austrians. On his release, he was employed by the Sardinian government to reduce to regular discipline the unruly volunteers from the duchies. He succeeded at last, and fought well at the head of his new regiment in the brief campaign of 1849. During the ten years that elapsed from the defeat of Novara to the renewal of the war in 1859, C. was actively employed. In the Crimea, he commanded the third division of the Sardinian contingent; and on his return was appointed inspector-gen. of Bersaglieri and aide-de-camp to the king—a rare distinction for a man of plebeian origin. He was intrusted by Cavour with the formation of the famous Cacciatori delle Alpi, placed under the command of Garibaldi after the declaration of war, and co-operated actively with them at the head of the fourth division. The victory at Palestro was his chief exploit, the further progress of the Italians being stopped by the peace of Villafranca. In 1860, he defeated the papal army under General Lamoricière at Castelfidardo. Diplomacy delayed the fall of Gaeta till 1861, Feb. 13, when it yielded to C. after a vigorous bombardment, as did the citadel of Messina shortly afterward. Turin erected a statue to C. (*Vincitore Sempre*), and Reggio elected him deputy in April. For a few months he was governor of Naples. He had to act against Garibaldi in the second Sicilian expedition. When the army of Italy was reorganized, 1863, C. was appointed to one of the chief commands. Senator in March, 1864, he signalized himself by his brilliant speech in favor of the transfer of the capital 1864, Dec. In the war of 1866, the advice of La Marmora was followed, and the defeat of Custoza was the result. C. was appointed chief of the staff on the resignation of La Marmora. In 1867, C. was intrusted by the king with the formation of a new ministry, but failed; he was also made

CIBAO—CIBRARIO.

commander-in-chief of the troops in central Italy. In 1870, he was engaged in the annexation of the papal states; and 1876 he was sent as ambassador to Paris.

CIBAO, *sē-bā'ō*: mountain range in the middle of Hayti, extending e.s.e. to w.n.w. about 90 m. The chief peaks are over 7,000 ft. high. Gold has been found in these mts., and the chief rivers of the island rise there.

CIBBER, *sib'ēr*, Colley: 1671, Nov. 6—1757, Dec. 12; b. London. He was sent to the free school at Grantham, Lincolnshire, 1682. Five years thereafter he returned to London, and in 1688 was a volunteer in the forces raised by the Earl of Devonshire in support of the Prince of Orange. He afterward conceived a passion for the stage, and, after performing gratuitously for several months, he succeeded in obtaining an engagement at 10s. per week, which was raised to 15s.; and on the commendation of Congreve, who had witnessed his performance of Lord Touchwood, five additional shillings per week were added. Incited by this magnificent success, he, at the age of 22, married Miss Shore, to the great rage of her father, who revenged himself by spending the greater portion of his fortune in the erection of a retreat on the banks of the Thames. After marriage C., discovering that 20s. per week was a somewhat insufficient income for an elegant gentleman and an elegant gentleman's wife, was induced to add thereto by the writing of comedies, some of which were remarkably successful. In 1711, he became one of the patentees in the management of Drury Lane, and remained in connection with that theatre till 1730; when, on being appointed poet-laureate, he sold his interest. He was, however, sometimes tempted back to the stage by an offer of 50 guineas a night. C. wrote and adapted many plays, but as an author he is best known by his *Apology*.

CIBBER, *sib'ēr*, SUSANNAH MARIA: 1716–66, Jan. 20: actress. She was a sister and pupil of Dr. Arne the musician, and first appeared in public as a singer, but married, 1734, Theophilus C. (1703–58), son of Colley C. Their domestic life was neither happy nor reputable; she left him and was the heroine of a *cause célèbre*. Appearing, 1736, as Zara, she won very high rank on the stage and a tomb in Westminster Abbey. Handel composed parts for her voice, and Garrick is credited with the saying that tragedy had expired with her.

CIB'OL. see ONION.

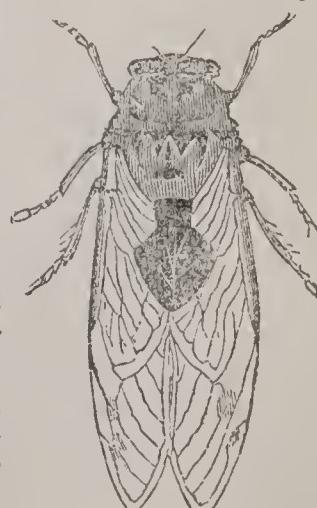
CIBORY, n. *sī'bō-rī*, or **CIBORIUM**, n. *sī-bō'rī-ūm* [L. *cibōrium*; Gr. *kibōrion*, a drinking-cup made from the large pods of the Egyptian bean or lotus, and resembling its seed in form]; in the *R. Cath. Chh.*, the sacred vessel in which the host is kept, being a large kind of chalice with a dome-like covering or lid. In anc. usage the C. was a canopy supported on columns, from which hung the pyx, or chalice, in which the host was deposited. These constructions were often richly ornamented and the pyx was usually in the form of a dove.

CIBRARIO, *che-brā'rē-o*, LUIGI. 1802, Feb. 23—1870, Oct. 1; b. Turin: Italian historian and politician. He

CICADA.

studied at the Univ. of Turin where he took his degree, 1824, as doctor of laws. He early gained repute in historical investigations. In 1825, appeared his *Notizie sulla Storia dei Principi di Savoia*; in 1826, *Notizie di Paolo Simone de Belli*; and in 1827 *Delle Storie di Chieri Libra IV*. King Charles Albert—with whom he was always a great favorite—frequently employed him in diplomatic service, and in 1848, when Italy rose against the Austrians, appointed C. extraordinary royal commissioner at Venice. During the same year he was created a senator of the kingdom. When Charles Albert—after the unfortunate issue of the war—went to live in voluntary exile at Oporto, C. was sent by the Sardinian senate to induce him to return. He wrote an account of his unsuccessful mission, entitled *Ricordi d'una Missione in Porto gallo al Re Carlo Alberto* (1850). During his public career, however, C. did not neglect his early and favorite pursuits. In 1839, he published *Della Economia Politica del Medio Ero*; in 1840, *Storia della Monarchia di Saroia*; in 1844, *Storia e Descrizione della Badia d'Altacomba*; and in 1847, *Storia di Torino*. But the new life and energy which Sardinia began to manifest under Victor Emmanuel had its claims on his public usefulness. In 1850, he was appointed supt.gen. of customs, and while occupying this office introduced important reforms. Subsequently, he was intrusted with full powers to negotiate a treaty of commerce with France, in which he distinguished himself notably by his advocacy of the principles of free trade. In 1852, he was made minister of public instruction, and in 1855, minister of foreign affairs. When Cavour took this department into his own hands C. became first sec. of the king. In 1857, he was appointed pres. of the telegraphic congress of Turin. In 1860, C. again made a most successful appearance as an author in *Operette Varie* (Torino), and in *Jacopo Valperga di Masino, Cancelliere di Savoya*. He died at Salo, in the province of Brescia.

CICADA, n. *sī-kā-dū*, or CICALA, n. *sī-kā-lā* [L. *cicada*, the tree-cricket; It. *cicada*, and *cicala*]: genus of insects of the order *Hemiptera*, sub-ord. *Homoptera*, remarkable for the sounds which they emit, the loudness of which is very extraordinary for creatures of their size. The largest European species are only about an inch long. The elytra, or wing-covers, of the cicadæ are almost always transparent and veined. They dwell on shrubs and trees, of which they suck the juices. The male insects alone possess the organs of sound perfectly developed. These are in no way connected with the mouth or throat, but may be described as a musical apparatus on the under side of the abdomen. This apparatus is very complicated, consisting of a set of membranes and fibres connected with powerful muscles. The sound can be produced even after the insect has been long dead, by pulling the fibres, and letting them



Cicada.

CICATRIX.

escape. Cicadas are most common in tropical and warm temperate regions. The ancients regarded the sounds of these insects as types of music and eloquence. In some countries they bear names which signify that sleep is banished by their din. The sounds produced by some of the S. American species, which are much larger than the European, are loud enough to be heard at the distance of a mile, and have been likened to the sound of a razor-grinder at work. The Greek name of the C. is *tettix*, often erroneously translated grasshopper. These insects have indeed no resemblance to grasshoppers, and no power of leaping. C. is the Latin name. The modern Italian is *cicale*, the French *cigale*. Byron speaks of the 'shrill cicadas.'

CICADA SEPTENDECIM, or SEVENTEEN-YEAR LOCUST (*Linnaeus*): insect belonging to the order of *Hemiptera*, division *Homoptera*. The specific name *septendecim* alludes to a popular belief that it spends 17 years in the imperfectly developed state, not leaving the chrysalis till after that period of larval life. The united scientific and popular observations prove that the insect has a certain degree of periodicity in its visitations, and that 17 years is approximately the measure of its term of absence. In its developed state it is black; veins in wings and the anterior edge of same, orange; eyes, red; rings around body, orange; legs, orange; wings expanded, $2\frac{1}{2}$ to $3\frac{1}{4}$ inches. The markings on the wings form a rude approach to the letters W and M. When they appeared, in 1835, in Louisiana some of the people interpreted these as meaning war with Mexico. The complete insects leave the ground between February and July. They develop in great numbers; the males soon die, it being questionable whether they ever take any nourishment. The female dies soon after laying her eggs; the eggs develop and the larva, which is but $\frac{1}{16}$ inch long, falls to the ground and buries itself, to emerge ultimately as a *pupa*. Owing to their slow development, many perish before reaching this stage. After the pupa state is attained, they leave the earth, climb the trunks of trees, and then undergo their final metamorphose. The skin of the pupa splits, and the cicada emerges. Were they annual visitants, they would do incalculable injury; as it is, they destroy and injure much vegetation, as the larvæ attack the roots of plants, sucking the juice therefrom. Birds, insects, and animals prey upon the eggs and larvæ.

CICATRIX, n. *sīk-ă-triks*; CIC'ATRICE, n. *-trīs* [L. *cicatrix*, a scar: F. *cicatrice*]: the scar or seam that remains after a wound has skinned over and healed. CIC'ATRIZE, v. *-trīz*, to heal a wound; to induce a skin to grow over it; to skin over. CIC'ATRI'ZING, imp. CIC'ATRIZED, pp. *-trīzd*. CIC'ATRIZA'TION, n. *-trī-zā'shūn*, the process of healing; the being skinned over. CIC'ATRI'SIVE, a. *-trī'zīv*, tending to promote the healing of a wound. CIC'ATRIC'ULA, n. *-trīk'-ū-lū*, in bot., the scar left after the falling of a leaf; the hilum or base of the seed; in anat., the point in the ovum (egg) in which development begins, and life first shows itself.

CICATRIZATION—CICER.

CICATRIZATION: process of healing or skinning over of an ulcer or broken surface in the skin or in a mucous membrane, by which a fibrous material, of a dense resisting character, is substituted for the lost texture. The new tissue, in such a case, is called the cicatrix, and usually resembles, to a considerable extent, the structure which it replaces; it is, however, less elastic, and from its shrinking in volume, sometimes produces an appearance of puckering. The glands and other speelial structures of the original tissue are wanting in cicatrix, which, however, performs perfectly well, in most instances, the office of protection to the parts below the surface. See INFLAMMATION ULCERATION.

CICCI, chēt'chē, MARIA LOUISA: 1760–1794; Italian poet; b. Pisa. When she was seven years old her father placed her in a convent, ordered her to be instructed merely in domestic duties, and forbade her even being taught to write. By stealth, however, she read some of the best poets, acquired the rudiments of writing, and supplied the want of pen and ink by grape juice and bits of wood. With these rude materials her first verses were written in her 10th year. At a maturer age she made herself mistress of natural philosophy, and the English and French languages, and studied the works of Locke and Newton. Her anacreontic verses were distinguished by their grace and spirit.

CICELY, n. sis'ē-li [L. and Gr. *sesēlis*, the plant hartwort], (*Myrrhis*): genus of umbelliferous plants, nearly allied to Chervil, of which one species, SWEET C. (*M. odorata*), is common in central and southern Europe, and in similar climates in Asia, but in Britain is so generally found near human habitations, that it appears probably to have been introduced. It is sometimes called *Sweet Chervil*, and in Scotland *Myrrh*. It is a branching perennial, two ft. high or upward, with large triply pinnate leaves and pinnatifid leaflets, somewhat downy beneath; the fruit remarkable for its large size, and as well as the whole plant, powerfully fragrant, the smell resembling that of anise. The seeds, roots, and young leaves are used in Germany and other countries in soups, etc. The plant was formerly much in use as a medicinal aromatic.

CIC'ER: see CHICK PEA.

CICERO, *sīs'ē-rō*, MARCUS TULLIUS: greatest orator of Rome, and one of the most illustrious of her statesmen and men of letters: b.c. 106, Jan. 3—b.c. 43, Dec. 7; b. Arpinum. He belonged to an ancient family, of the equestrian order, and possessed of considerable influence in his native district. His father, a man of culture, and desirous that his son should acquire eminent position in the state, removed him at an early age to Rome, where, under the direction of the orator Crassus, he was instructed in the language and literature of Greece, and in all the other branches of a polite education. In his 16th year he assumed the manly gown, and was introduced to the public life of a Roman citizen. He now acquired a knowledge of law, and underwent a complete course of discipline in oratory. At the same time he studied philosophy under three successive preceptors, of the epicurean, academic, and stoic schools, and neglected no mental exercise, however arduous, which might conduce to his future eminence; being thus early of the opinion which he afterward maintained in his treatise *De Oratore*, that an orator should possess almost universal knowledge. With the exception of a brief campaign under Sulla, in the social war, he passed his time in these preliminary studies until his 26th year, when he began to plead in public. In one of his earliest causes, he distinguished himself by defending the rights of Roscius, a private citizen, against one of the favorites of Silla, who was then dictator. Soon after, for his health, and for improvement in elocution, he travelled to the chief seats of learning in Greece and Asia; and on his return was considered as second to no orator at the Roman bar. Having been elected questor (b.c. 76), he was appointed by lot to a government in Sicily, a post which he filled with great ability, and to the entire satisfaction of those whom he governed. Some years after his return, he laid the Sicilians under still greater obligations by his successful prosecution of their prætor, Verres, against whom he prepared no less than six orations, although the first had the effect of disheartening the accused so effectually that he voluntarily retired into exile. Passing, at short intervals, through the offices of ædile (b.c. 69) and prætor (b.c. 66), he was at length elected, by an overwhelming majority, to the consulship. His tenure of office was rendered memorable by the conspiracy of Catiline, which he frustrated with admirable skill and promptitude: see CATILINE. The highest praises were showered upon C.; he was hailed by Cato and Catulus as the ‘father of his country;’ and public thanksgivings in his name were voted to the gods. But his popularity did not last long after the expiry of his consulship. His enemies charged him with a public crime, in having put the conspiring nobles to death without a formal trial, and he found it necessary to leave Rome, and went to reside in Thessalonica (b.c. 58.) A formal edict of banishment was pronounced against him, but he was recalled from exile in about 16 months, and on his return to Rome was received with great enthusiasm. His recovered dignity, however, soon excited the envy of the honorable party in the senate,

CICERO.

with whom he had desired to make common cause; while Pompey and Cæsar, the greatest powers in the state, and from whose enmity he had most to dread, courted his alliance and co-operation. Thus, while preserving an appearance of independence, he was betrayed into many actions which he could not but regard as ignominious, and which, by increasing the power of the triumvirs, led indirectly to the ruin of the republic. A remarkable exception to this servile conduct is to be found in his assisting Milo when suing for the consulship, and defending him, against the wish of Pompey, and in spite of the hostile feeling of the populace, after he had slain Clodius in an accidental rencontre. During this period, he composed his works, *De Oratore*, *De Republica*, and *De Legibus*. After a year's admirable administration of the Province of Cilicia (B.C. 51-50), he returned to Italy on the eve of the civil war. With the convictions which he avowed there was but one course which it would have been honorable for him to pursue—to enlist himself, at all hazards, on the side of Pompey and the republic. But instead of this he hesitated, balanced the claims of duty and of interest, blamed Pompey for his want of preparation, and criticised the plan of his campaign. At length he joined the army of the senate, but, after the battle of Pharsalia, abruptly quitted his friends, and resolved to throw himself upon the generosity of the conqueror. After nine months' miserable suspense at Brundusium, he was kindly received by Cæsar, whom he followed to Rome. During the years which ensued, he remained in comparative retirement, composing his principal works in philosophy and rhetoric, including those entitled *Orator*, *Hortensius*, *De Finibus*, *Tusculana*, *Disputationes*, *De Natura Deorum*, *De Senectute*, *De Amicitia*, and *De Officiis*. On the death of Cæsar, he was disposed to unite his interests with those of Brutus and the other conspirators, but was restrained by dictates of prudence. In the commotions which followed, he espoused the cause of Octavianus, and gave utterance to his celebrated philippics against Antony. These orations were the occasion of his death. When Octavianus and Lepidus joined with Antony in a triumvirate C. was among the proscribed; and his life was relentlessly sought. The soldiers of Antony overtook him while his attendants were bearing him, now old and in an infirm state of health, from his Formian villa to Caieta, where he intended to embark. He met his death with greater fortitude than he had supported many of the untoward incidents of his life. Desiring his attendants to forbear resistance, he stretched forward in the litter, and offered his neck to the sword of his executioners. He died in the 63d year of his age.

The character of C. is one which is not difficult to estimate. Really a lover of virtue, no one could follow in her footsteps with greater dignity when attended by the popular applause. But he was weak enough to yield to the depraved spirit of his times, and to act according to his convictions only when they were not evidently discordant with his private interests. Few men, possessing such tal-

CICERONE—CICINDELA.

ents, have been so utterly devoid of anything approaching to heroism. As a statesman, it would be unjust to deny his legislative abilities; but he was generally deficient in courage and resolution. He was one of the greatest masters of rhetoric that have ever lived. His orations were the result of consummate art, combined with unwearied industry, and survive as characteristic memorials of a time when eloquence, far more than at present, was a power which bent the verdicts of judicial tribunals, and influenced the decrees of the state. In philosophy, he does not rank with the original thinkers of antiquity; nor, in truth, did he aspire to do so. His writings on speculative subjects are valuable as reflecting the varied thought of the different schools. See his collected works by Orelli (9 vols., 1837; new ed. 1845); by Baiter and Kayser (1869). Also the lives by Middleton, Forsyth (1864), and Jeens (1880); and Trollope's *Life*, 2 vols. (1880).

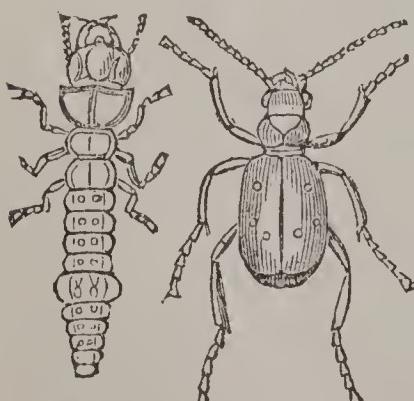
CICERONE, n. *sīs'ē-rō'nē*, or *chīch'ē-rō'nē*; **CICERO'NI**, n. plu. *-rō'nē* [It.—from *Cicero*, or *Cicerōnem*, the great anc. orator]: one who explains curiosities and antiquities; a guide. Cicerones are of all degrees, from distinguished archæologists, who undertake the office as a favor, to the humble *laquais de place*, who, though quite indispensable on a first arrival, is too often both incompetent and dishonest. The stranger ought to be particularly on his guard against allowing a C. to make purchases for or even with him, as the practice of adding a commission to him to the price charged now prevails probably in every country in Europe. **CICERONIAN**, a. *sīs'ér-ō'nī-ān*, like Cicero in style; eloquent. **CICERO'NIANISM**, n. *-izm*, imitation of Cicero.

CICHORACEOUS, a. *sīk'ō-rā'shūs* [L. *cichōriūm*, chicory]: of or pertaining to chicory or succory.

CICHO'RIUM: see CHICORY and ENDIVE.

CICINDELA, *sīs-in-dē'lā*: genus of insects of the order *Coleoptera*, section *Pentamera*, type of a large family, *Cicindelidæ*. This family is nearly allied to *Carabidæ*, and the insects belonging to it are among the most voracious

of those beetles which, both in their perfect and larva state, prey on other insects. They have a strong head, with projecting toothed mandibles, and are particularly distinguished by a sort of hook or nail, which is articulated by its base to each of the lower jaws or maxillæ. They are more abundant in tropical than in cold countries. The head of the larva is large, concave above, and the back furnished with two remarkable hooked spines, which are said to be used as anchors to fix it at any part it chooses of its burrow in the earth; while the soil



Cincindela campestris,
larva and perfect insect.

spines, which are said to be used as anchors to fix it at any part it chooses of its burrow in the earth; while the soil

CICISBEO—CID CAMPEADOR.

which it excavates is carried to the mouth of the burrow in a sort of natural basket formed of the concave back of the head and the recurved mandibles. The larva lies in wait in its burrow, its head just level with the ground, till its prey comes within reach, upon which it suddenly rushes.—*C. campestris*, a green species with whitish spots, is common in most parts of Britain in dry, sandy places exposed to the sun.

CICISBEO, n. *chē-chīs-bā'ō* [It.]: in *Italy*, the professed gallant or constant attendant on a married woman; a married lady's guardian in public. In the higher ranks of Italian society, it was at one time considered unfashionable for the husband to associate with his wife anywhere except in his own house. In society, or at public places of amusement, the wife was accompanied by her C., who attended at her toilet to receive her commands for the day. This custom, which was once universal, and which naturally gave rise to much scandal, has now almost disappeared. C. is synonymous with *cavaliere servente*. **CICISBEISM**, n. *chē-chīs'bē-īzm*, the system which assigns a male guardian to a married lady other than her husband.

CICOGNARA, *che-kōn-yā'rā*, LEOPOLDO, Count DE: 1767–1834, Mar. 5; b. Ferrara, Italy: archeologist and writer on art. He pursued his favorite studies at Rome, explored Sicily, and visited Florence, Milan, Bologna, and Venice, fixing the residence at Modena, 1795. Here he became a legislator, councilor of state, and minister of the Cisalpine republic at Turin. From 1808 he was pres. of the Acad. of Fine Arts at Venice, the efficiency of which he greatly promoted. His *Del Bello Ragionamenti* (1808), was dedicated to Napoleon, who decorated him with the iron crown, and assisted the publication of his great work, *Storia della Scultura* (3 vols. Venice, 1813–18): this is marred by excessive admiration for his friend Canova. Under the patronage (afterward lost) of Francis I. of Austria, he brought out *Fabbriche più conspicue di Venezia* (2 vols. folio, 1815–20). This and other splendid and expensive works reduced him to poverty. He produced a *Catalogue raisonné* (2 vols. Pisa, 1821) of his fine collection of books on art, which were bought 1824 by Leo XII., for the Vatican library.

CICO'NIA: see STORK.

CICU'TA: see HEMLOCK.

CIDARIS, n. plu. *sīd'är-īs* [Gr. *kid'āris*, a turban]: genus of *Echinidae* (q.v.), or sea-urchins, closely allied to the genus *Echinus* itself, and included with it in a family or tribe called *Cidarites*, in which the mouth and anus are opposite to each other—the mouth below, and the anus above. Only one species, *C. papillata*, has been found in the British seas, and that only on the coasts of Zetland. The Zetlanders call it the *Piper*, from a resemblance which they trace in its globe and spines to a bagpipe. They say that it is sometimes found with spines a foot long. The markings of the shell and spines are extremely beautiful.

CID CAMPEADOR, Sp. *thēth kām-pā-ā-thōr'*: name given

CID CAMPEADOR.

in histories, traditions, and songs to the most celebrated of Spain's national heroes, Roderigo Ruy Diaz, d. 1099. There is so much of the mythical in the history of this personage, that hypercritical writers, such as Masdea, have doubted his existence; but recent researches, more particularly those of Dozy, and the investigation of newly-discovered Arabic sources, have succeeded in separating the historical from the romantic. See Dozy's *Récherches sur l'Histoire Politique et Littéraire de l'Espagne pendant le moyen âge* (Leyden, 1849). The following is the result of these inquiries: Roderigo Ruy Diaz (Roderic the son of Diego) was descended from one of the proudest families of Castile. His name first appears in a document written 1064, during the reign of Ferdinand of Leon. Under Sancho II., son of Ferdinand, he became standard-bearer and commander of the royal troops. In a war between the two brothers, Sancho II. and Alfonso VI. of Leon; it was a stratagem of Roderic's—which, according to modern notions, was anything but honorable—that secured the victory of Sancho at Llantada (1068) over his brother, who was forced to seek refuge with the Moorish king of Toledo. He appears at this time to have already been called the *Campeador*, a word supposed to answer to our champion.

Upon the assassination of his friend and patron, King Sancho, he required the next heir, Don Alonzo, to clear himself by oath of any participation in his brother's murder, etc the nobles of Leon and Castile should do homage to him. By this act, he incurred the new monarch's enmity, an enmity which, however, the king's policy concealed in the hour of danger, and he even consented to Roderic's marriage with his cousin Ximena—daughter of Diego, Duke of Asturia. But when the king thought the services of Roderic no longer necessary to his own safety, he readily gave ear to the latter's personal enemies, and banished him in 1081. Roderic then joined the Moorish kings of Saragossa, in whose service he fought against both Moslems and Christians. It was probably during this exile that he was first called the Cid or Sid, an Arabic title which means lord. He frequently defeated the king of Aragon and the Count of Barcelona, the latter of whom, Berenguer Ramon II., he took prisoner.

He was again reconciled to the king, but only for a short time, when he was condemned to a second exile. In order to support his family and numerous followers, he now saw himself forced to carry his sword against the Moors, over whom he gained a victory, and established himself as sovereign or lord of Valencia (1094). He retained possession of Valencia five years, during which time he took many neighboring fortresses. He died of grief 1099, on learning that his relative and comrade in arms, Alvar Fanez, had been vanquished by the Moors, and that the army which he had sent to his assistance had been defeated near Alcira. After the Cid's death, his widow held Valencia till 1102, when she was obliged to capitulate to the Almoravides, and fly to Castile where she died 1104. Her remains were placed by those of her lord in the monastery of San Pedro

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de Cadeña. The Cid had a son, who was slain by the Moors in a battle near Consuegra. He also left behind him two daughters, one of whom was married to the Count of Barcelona; the other to an Infant of Navarre, through whom the kings of Spain and many royal houses of Europe claim kindred with ‘*Mio Cid el Campeador*.’ Relics of the ‘Blessed Cid,’ as he is still called in Spain, such as his sword, shield, banner, and drinking-cup, are still held in great reverence by the populace. The numerous *Cid romances* that were published first in the 16th c. contain the most romantic improbabilities concerning the life and deeds of the Cid. See *Silva de Varios Romances* (1550), and *Romancero General* (1604). These romances were taken from the ancient *cantares* (national songs) and *poemas*, most of which are entirely lost. The most important of modern works on this subject, besides that of Dozy above mentioned, are Huber’s *Geschichte des Cid*, etc. (Breman 1829), and Southey’s fascinating *Chronicle of the Cid* (Lond. 1808). See also Willemaers, *Le Cid* (Bruss. 1873). The first adequate English translation is that of Mr. Ormsby, 1879.

CIDER, n. *sī'dēr* [F. *cidre*; OF. *sidre*, cider—from L. *sicērā*, strong drink]: juice of apples fermented. It is prepared extensively in the United States and parts of England, in Ireland, and in the n. districts of France. In Normandy, a vast number of varieties of acid or bitter-apples are grown for the preparation of cider. The apples are first bruised in a circular stone-trough or *chase*, by a similarly-shaped stone or *runner*, which revolves by machinery in the interior of the trough. The pulp so obtained is placed in sieve-bags made of hair-cloth or reed-straw, and subjected to pressure, which yields a dark-colored, sweet liquid, and leaves in the bag a somewhat dry residue, consisting of the pips, skin, and other fibrous parts of the apple. The apple-juice passes first into a shallow tub or *trin*, and is almost immediately placed in casks in a cool place, when fermentation begins, part of the sugar is converted into alcohol, and in a few days, a clear liquid is obtained, which can easily be racked off from sedimentary matter. C. contains $5\frac{1}{2}$ to 9 per cent of alcohol, and is therefore intoxicating when drunk largely. It does not possess the tonic and nourishing properties of bitter-beer. C. quickly turns sour, becoming *hard* C., owing to the development of lactic acid. **CI'DERKIN**, n. -*kīn*, a poor liquor made from the refuse of apples after the juice has been pressed out for cider.

CI-DEVANT, ad. *sē'dē-vōng'* [F. *ci*, here, this; *devant*, before]: formerly; heretofore; late.

CIEL, v. *sēl*, or **SEEL**, v. *sēl* [Scot. *sile*, to blindfold: F. *ciller*, to wink—from *cil*, an eyelash—from L. *ciliūm*, one eyelash]: in O.E., to cover or close the eyes; to sew up the eyes of a hawk in order to tame it; to panel. **CIELING**, imp. **CIELED**, pp. *sēld*, panelled; wainscoted: see **SEEL**.

CIENFUEGOS, *se-ēn-fwē'gōs*: city of Cuba, cap. of a district; on the bay of Jagua on the s. coast, 130 m. s.e. of Havana. It is named from a capt.gen. of Cuba who

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founded it about 1813, and is said to be the most beautiful town on the island. It has a good harbor, defended by the fort of Los Angeles, and railroad communication with Cardenas and other places on the n. coast. C. is connected directly by cable with Santiago de Cuba and Havana. During the SPANISH-AMERICAN WAR (q.v.) the harbor of C. was effectually blockaded, and when a Spanish mail steamer, the *Argonauta*, tried to force the blockade she was captured (first capture of the war) by the U. S. gun-boat *Nashville*, 1898, Apr. 29. On the same day the cruiser *Marblehead* bombarded its fortifications. On May 14 four boat-crews from the American vessels rowed into the harbor and, under the protection of the guns of their ships, cut the cables, thus preventing any information regarding the movements of the American flying squadron from reaching Havana or Santiago. C. has a good local trade, and exports sugar, wax, and timber. Pop. (1888) 65,556.

CIEZA, *thē-ā-thā*: town of Spain, province of Murcia, 26 m. n.w. of the city of Murcia; on an eminence near the river Segura, overlooking a plain of great fertility.. The streets are wide and well paved; and there are manufactures of linen, hempen fabrics, wine, and oil; and silkworms are reared. Pop. (1897) est. 15,000.

CIGAR, n. *sī-gār'* [Sp. *cigarro*, originally a particular kind of tobacco: F. *cigare*]: a small roll of tobacco-leaf for smoking (see TOBACCO). **CIGARETTE**, n. *sig'ā-rēt'*, small cigar, of tobacco more or less finely divided, and rolled up in a wrapper forming a bundle of approximately cylindrical shape. For wrapper, corn husk, tobacco leaves, or sections of straw, or tissue paper, are used. The manufacture has attained immense development in the last 10 years. Formerly the consumer as a rule made his own cigarettes one at a time, rolling up the tobacco in a wrapper. They are now made principally in factories. The tobacco is selected with care and subjected to various treatment, each manufacturer having his own systems. Glycerine is used to preserve the moisture of the tobacco; and as flavoring a great variety of substances is used. As wrapper the purest tissue paper is generally used. Sometimes it is prepared in color to resemble tobacco. One such preparation is made by dusting dampened paper with impalpable powder of tobacco and subjecting piles of sheets thus treated to pressure until dry. The best paper is said to come from Alcoy, in Valencia, Spain. The rolling of the cigarettes is generally done by hand. The tobacco for each cigarette is picked up by the fingers, and wonderful accuracy is attained by practice. Though many machines, some successful, have been invented for rolling cigarettes, none have been able to displace hand-work. Medical authorities trace serious diseases to the habitual use of cigarettes, especially by persons not yet mature; and legislation has been invoked to prohibit their sale to minors.

CIGOLI, *chē-go-lē*, LUDOVICO CARDI DA. 1559-1613; b. Empoli. eminent painter of the later Florentine school, which, about the end of the 16th c., developed in opposition to the languid mannerists of the time, a peculiar *eclectic* style of art. His model was Corregio; but as the latter

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was deficient in design, and in a scientific knowledge of perspective, C. endeavored to unite these with the warm bright coloring and wonderful chiaroscuro of Corregio. He was invited by Clement VII. to Rome, where he died. Among C.'s most famous pictures may be mentioned—*The Healing of the Lame Man* (St. Peter's, Rome), *The Martyrdom of St. Stephen* (Uffizi Gallery, Florence), *Tobias in the Act of Thanking the Angel* (St. Petersburg), and *St. Francis*, a favorite subject with Cigoli (Pitti Palace, Florence). C. was held in high estimation as an architect also, and designed several of the Florentine palaces.

CILIA, n. plu. *sil'i-ă* [L. *ciliūm*, an eyelid with the hairs growing on it: It. *ciglio*: F. *cil*]: the hair of the eyelids; hairs on the margin of any body; hair-like processes from the margins of leaves, petals, etc.; thin hairlike projections from an animal membrane which have a quick vibratory motion — seen only by the microscope (see EPITHELIUM). **CILIARY**, a. -*i-ér-i*, belonging to the eyelids or cilia. **CILIATED**, a. -*i-ă-tăd*, in bot., furnished or surrounded with parallel filaments or bristles resembling the hairs of the eyelids. **CILIOBRACHIATE**, a. -*i-ō-brăk'i-ăt* [L. *brachium*, an arm]: having the arms provided with cilia. **CILIARY MOTION**, that rapid vibratile motion characteristic of cilia in a state of action, which thus create currents in the surrounding or contiguous fluid, to subserve important purposes to the animal possessing them.

CILICIA, *sē-lish'e-a*: ancient division of Asia Minor, now included in the Turkish eyalet of Kouiah. The Taurus range, which separated it from Cappadocia, bounded it on the n., the Gulf of Issus and the Cilician Sea on the s., while the Amanus and Pamphylia bounded it respectively on the e. and w.: lat. 36° — 38° n., long. $32^{\circ} 10'$ — $37^{\circ} 8'$ e. The e. portion of C. was fertile in grain, wine, etc.; while the w. and more mountainous portion furnished inexhaustible supplies of timber to the ancients. The pass called by the Turks Gölek Bógház is that by which the younger Cyrus passed from Tyana in Cappadocia to Tarsus; and it is also the same by which Alexander the Great entered Cilicia. Pop. about 100,000, mostly nomadic.

In early ages C. was ruled by its own kings, the dynasty of Syennesis being apparently the most important. The Cilicians were a distinct people in the time of Xenophon; but the Greeks appear to have got a footing after the time of Alexander. The Cilicians were notorious pirates, but having carried on their depredations too close to the shores of Italy, the Roman arms were turned against them, and C. was made a Roman province in Pompey's time.

CILIOGRADA, n. plu. *sil'i-ō-grā'dă* [L. *ciliūm*, an eyelid with the hairs on its margin; *grādior*, I walk; *grādus*, a step]: animals that swim by means of cilia — same as 'ctenophora'. **CILIOGRADE**, a. *sil'i-ō-grād*, swimming by the vibratory motion of cilia.

CIMABUE, *che-má-bó-ă*, GIOVANNI: 1240—soon after 1300; b. Florence: one of the restorers of the art of painting in Italy, which had fallen into neglect during the bar-

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barism of the dark ages. At this time, the fine arts were practiced in Italy chiefly by Byzantines, and had degenerated into a worn-out mechanical conventionalism. C. studied at first under Byzantine masters, and adopted their traditional forms, but gradually excelled his teachers, made innovations on their fixed patterns, and gave life and individuality to his works. Two remarkable pictures of the Madonna by C. are still preserved in Florence—one (chiefly Byzantine in style) in the Academy; the other, displaying a more purely original genius, in the church of Santa Maria Novella. It is said that this latter work in the time of C. was admired as a miracle of art, and was carried to the church in a sort of triumphal procession. More remarkable pictures, in point of expression or dramatic effect, are found in C.'s frescoes in the church of San Francisco at Assisi. What strikes one as very wonderful about C.'s pictures, is the accuracy of his naked figures, considering that he had no better professional guides than the Byzantine artists. His draperies also were very good, but he had apparently no knowledge of perspective, though acquainted with architecture. His greatest pupil was Giotto (q.v.).

CIMAROSA, *che-má-ro'zá*, DOMENICO: 1749, Dec. 17—1801; b. Aversa: Italian composer of operas. He was educated in music under Sacchini, and in the conservatory of Loretto. His first pieces were the *Sacrificio di Abramo* and the *Olympiade*. When barely 22 years of age, he had achieved a reputation in all the leading Italian theatres. He was then called to St. Petersburg, where he resided four years. Afterward, he lived at various German courts; thence he proceeded to Vienna, where he became imperial chapel-master; finally, he returned to Italy. At Naples, his comic opera, *Il Matrimonio Segreto*, composed Vienna 1791, was repeated 57 times in succession. C. died at Venice. His comic operas, which are remarkable for novelty, spirit, whimsicality, and liveliness of idea, show also great knowledge of stage-effect. The wealth and freshness of his invention gave rise to the saying that one finale of C. contained material for a dozen operas.

CIM'BALO: musical instrument with a set of keys like the clavecin or harpsichord.

CIM'BRI, or **KIM'BRI**: a people who issued from the n. of Germany in conjunction with the Teutones, and came into hostile contact with the Romans first in the eastern Alps, b.c. 113. They were victorious in several great engagements, and were prevented from devastating Italy only by sustaining a terrible defeat from Marius, on the Raudii Campi, near Verona, or, according to others, near Vercelli, b.c. 101, Aug. Their infantry fought with their shields fastened together by long chains; their horsemen, of whom they had 15,000, were well armed with helmet, coat of mail, shield, and spear. Marius had so chosen his position that the sun and dust were in their faces, and yet they contested the victory most bravely with the Romans who were 55,000 strong. When the battle was lost, the women, who

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remained in the camp formed of the wagons, killed themselves and their children. 140,000 C. are said to have fallen in the battle; the number of prisoners is given at 60,000. It is not till long afterward, when the Romans themselves penetrated into Germany, that the name of the C. again appears. Cæsar represents the Aduatichi of Belgium as the descendants of the C. and Teutones. Tacitus speaks of a people bearing the name of C., few in number but of great reputation, that sent ambassadors to Augustus. This people lived in the extreme north of Germany, on the borders of the ocean; according to Pliny and Ptolemy, at the extremity of the peninsula called from them the Cimbrian Chersonese, now Jütland. The ethnology of the C. is doubtful. Greek writers associated them groundlessly with the Cimmerians (q.v.); Sallust calls them Gauls; Cæsar, Tacitus, and Plutarch looked upon them as Germans, and the opinion of their German origin has been adopted by most moderns. Yet H. Müller, in his *Marken des Vaterlandes* (1837), has endeavored to show that they belonged to the Celtic race, and lived originally on the n.e. of the Belgæ, of kindred origin, and that their name is the same as that by which the Celts of Wales designate themselves to this day—*Cymri*.

CIMBRIC, a. *sím'brik*: pertaining to the Cimbri, an ancient tribe of northern Germany and Denmark.

CIMETER, or CYMETAR, n. *sím'ē-tér* [F. *cimeterre*—from It. *scimiterra*; Sp. *cimitarra*; Pers. *shamsher*, a sword]: a short curved sword used by the Persians and Turks; also spelled SCIMETAR, SCIMITAR, and SCYMETAR.

CIM'EX AND CIMIC'DÆ: see BUG.

CIMICIF'UGA, or BUG-BANE: herb of the order *Ranunculæ*. Incisely toothed leaflets; flower, white; herbaceous stem, four to six ft. high. Also called snakeroot and black cohosh. The aqueous decoction or alcoholic extract of the root of *C. racemosa* is used in medicine in cases of chorea, and was formerly used in rheumatism.

CIMINNA, *chē-min'nā*: town of Sicily, Province of Palermo, 18 m. s.e. of the city of Palermo. Pop. about 10,000.

CIMMERIAN, a. *sím-mé'rī-ān* [L. *Cimmērium*, a former name of the Crimea, fabled by the ancients to have been continually shrouded in darkness]: extremely dark; very obscure; benighted. CIMMERII, n. plu. *sím-mé'rī-i*, or CIMMERIANS, anc. mythical people who were said to live in the furthest w. on the ocean amid constant mists and darkness; in the poems of Homer, the name of the people dwelling ‘beyond the ocean-stream,’ where the sun never shines and perpetual darkness reigns.—But the historic C. were a people whose country lay between the Borysthenes (Dnieper) and the Tanais (Don), including also the Tauric Chersonesus (Crimea). The Cimmerian Bosporus (Strait of Yenikale) derived its name from them: see BOSPORUS. KAFFA. Being driven out by the Scythians, they migrated to Asia Minor, dwelt there for some time, plundered Sardis,

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failed in an attempt upon Miletum, and were finally routed and expelled by the Lydian king Alyattes, some time after B.C. 617.

CIMOLITE, n. *sim'ō-lit*: a pure white or grayish-white variety of clay from the island of *Cimolus* (now Argentiera), in the Grecian Archipelago, used as a fuller's earth (q.v.).

CIMOLIAN, a. *sī-mō'lī-ān*, pertaining to.

CIMON, *sī'mon*: an Athenian commander; d. B.C. 449; son of Miltiades who was the conqueror at Marathon. In conjunction with Aristides, he was placed over the Athenian contingent to the allied fleet, which, under the supreme command of the Spartan Pausanias, continued the war against the Persians (B.C. 477). He effected the important conquest of Eion, a town on the river Strymon, then garrisoned by the Persians. Later (according to Clinton, B.C. 466), when commander-in-chief, he encountered a Persian fleet of 350 ships at the river Eurymedon, destroyed or captured 200, and defeated the land-forces on the same day. He succeeded likewise in driving the Persians from Thrace, Caria, and Lycia; and expended much of the money which he had obtained by the recovery of his patrimony in Thrace upon the improvement of the city of Athens. At this period he appears to have been the most influential of the Athenians. The hereditary enemy of Persia, it was his policy to advocate a close alliance with Sparta; and when the Helots revolted he led an army upon two occasions to the support of the Spartan troops; but on the latter occasion, having lost the confidence of his allies, he was ignominiously dismissed. After his return to Athens his policy was opposed by the democracy, headed by Pericles, who procured his banishment by ostracism. He was recalled in the fifth year of his exile, and was instrumental in obtaining a five years' armistice between the Spartans and the Athenians. He died while besieging the Persian garrison of Citium in Cyprus.

CINALOA, *sīn-ā-lō'ā*: town of Mexico, in the state of C., on the Rio Cinaloa, about 50 m. from its entrance into the Gulf of California. It is a thriving place, with gold-washings in the vicinity. Pop. about 9,000.

CINCHONA.

CINCHONA, n. *sín-kō-nă*, sometimes CHINCHONA [said to be after Countess of *Chinchon* (q.v.), wife of a viceroy of Peru, A.D. 1638; but whose name probably only modified *kina*, or *kinakina*, the native Peruvian name]: the bark of a tree of many species growing in Peru, etc., also called Peruvian bark, and Jesuit's bark; the tree itself, ord. *Rubiacēæ*. CINCHONACEOUS, a. *sín'kō-nā'shiūs*, of or pertaining to the cinchona. CINCHON'IC, a. *-kōn'ik*, pertaining to. CINCHONINE, n. *sín'kō-nīn*, or CINCHO'NIA, n. *-kō-nī-ā*, an alkaloid obtained from cinchona bark: see QUINIA or QUININE. CIN'CHONISM, n. *-kō-nīzm*, in med., a disturbed condition of the body caused by overdoses of cinchona or quinine.

CINCHONA (better spelled *chinchona*, it appears; see CHINCHON): a most important genus of trees of the nat. ord. *Cinchonaceæ*, yielding the bark so much valued in medicine, known as Peruvian bark, Jesuits' bark, China bark, quina, quinquina, cinchona bark, etc., and from which the important alkaloids *Quinia* or *Quinine* (q.v.), and *Cinchonia* or *Cinchonine*, are obtained. The species of this genus are sometimes trees of great magnitude; but an aftergrowth springing from their roots when they have been felled, they often appear only as large shrubs; and some of them, in the highest mountain regions in which they are found, are low trees with stems only eight or ten ft. in height. They are natives of S. America, between s. lat. 20° and n. lat. 10°, and chiefly on the e. slope of the second range of the Cordilleras. All the cinchonas are evergreen-trees, with laurel-like, entire, opposite leaves, stipules which soon fall off, and panicles of flowers which, in general appearance, are like those of lilac or privet. The flowers are white, rose-colored, or purplish, and very fragrant. The calyx is small and five-toothed; the corolla tubular with a salver-shaped five-cleft limb. In the true *Chinchonas* the capsule splits from the base upward; the species in which it splits from above downward form the sub-genus *Cascarilla*, the distinction acquiring importance from the consideration that the barks of the former alone contain the alkaloids so valuable in medicine; and this property is further limited to those species which have the corolla downy or silky on the outside. Beyond the botanical limits thus narrowly marked out not a trace of these alkaloids has yet been discovered anywhere.

Great difficulty has been found in determining the species by which the different varieties of C. bark known in commerce are produced. The common commercial names are derived partly from the color of the kinds, and partly from the districts in which they are produced, or the ports where they are shipped. It appears, however, to be now ascertained that *Calisaya bark*, also called royal or genuine yellow bark, one of the very best kinds—mostly shipped from Africa—is chiefly the produce of *C. Calisaya*, a large tree growing in hot mountain valleys of Bolivia and the south of Peru. To give all the varieties of bark and species of tree would go beyond our limits.

The accurate discrimination of the different kinds of

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bark requires much experience. The taste is always bitter; but it is possible even to distinguish by the taste those varieties which contain quinia most largely from those in which cinchonia is most abundant.

The cutting and peeling of C. trees are carried on by Indians, who go in parties, and pursue their occupation during the whole of the dry season. They build a hut, which serves both for their abode and for drying the bark. The trees are felled as near the root as possible, that none of the bark may be lost; and the bark being stripped off, is carefully dried; the quilled form of the thinner bark is acquired in drying. The bark is made up into packages of various size, but averaging about 150 lbs. weight, closely wrapped in woolen cloth, and afterward in hides, to be conveyed on mules' backs to the towns. These packages are called drums or *seroons*. It is in them that the bark is always brought to Europe.

A number of spurious kinds of Peruvian or C. Bark are either sent into the market separately, or are employed for adulterating the genuine kinds. They are bitter barks, and have, in greater or less degree, febrifugal properties, but are chemically and medicinally very different from true C. bark. They are produced by trees of genera very closely allied to cinchona.

While C. trees have been becoming every year more scarce in their native regions, no attempt has been made to cultivate them there, notwithstanding the constantly increasing demand for the bark; but the Dutch have made extensive plantations in Java, and the same has been done in British India and Ceylon. The plantations in Jamaica now yield bark superior to the best produce of Ceylon. Plantations have been made also in Trinidad, Mauritius, and St. Helena. See PERUVIAN BARK: also Mr. Markham's book, *Peruvian Bark* (1880).

The Indians of Peru call the C. trees *Kina*, whence are derived the names *China*, *Quina*, etc. But it is not certain that they knew the use of the bark before the arrival of the Spaniards. It is a medicine of great value in the cure of intermittent fevers (see AGUE), and diseases attended with much febrile debility; also in certain forms of neuralgia (q.v.), and other diseases of the nervous system. It seems to have been imported into Europe first in 1639, by the Countess Del Cinchon or Chinchon, the wife of the viceroy of Peru, who had been cured of an obstinate intermittent fever by means of it, and upon this account it was named *C. Bark* and *Countess's Powder* (*Pulvis comitissae*). The Jesuit missionaries afterward carried it to Rome, and distributed it through their several stations, and thus it acquired the name of *Jesuits' Bark* and *Powder of the Fathers* (*Pulvis patrum*). Cardinal Juan de Lugo having been particularly active in recommending and distributing it, it was known also as *Cardinal de Lugo's Powder*. It attained great celebrity in Spain and Italy, being sold at high prices by the Jesuits, by whom it was lauded as an infallible remedy, while by most of the orthodox physicians it was coldly received, and by the Protestants altogether repu-

CINCHONACEÆ.

diated. Its mode of action not being well understood, and the cases to which it was applicable not well defined, it seems, in the first instance, to have been employed without due discrimination, and to have fallen very much into the hands of empirics. After its disuse in Europe it was again brought into notice by Sir Robert Talbor or Talbot, an Englishman, who brought it to England 1671, and acquired great celebrity through the cure of intermittents by means of it, and from whom Louis XIV. purchased his secret, 1682. A pound of bark at that time cost 100 louis-d'or. Talbor seems to have been a vain and self-seeking man, but who had, nevertheless, the acuteness to discern and systematically to avail himself of the healing virtues of the neglected Jesuits' bark, which he mixed with other substances, so as to conceal its taste and odor. Soon afterward, both Morton and Sydenham, the most celebrated English physicians of the age, adopted the new remedy; and its use, from this period, gradually extended, both in England and France, notwithstanding the opposition of the faculty of medicine in France. As it came into general use, it became a most important article of export from Peru; but for a long time the value of the bark to be procured in New Granada remained unknown, and in order to the maintenance of a commercial monopoly extraordinary methods were even employed to prevent it from becoming known at a comparatively recent period of Spanish rule in America. The discovery of the alkaloids on which its properties chiefly depend constitutes a new era in the history of this medicine, and did not take place till the beginning of the present century.

The chief active principles are the two alkaloids, quinine (q.v.) and cinchonine. The latter is not generally present in so large a proportion as the quinine, and does not possess such powerful medicinal properties. When isolated, the alkaloid *Cinchoniu*, or cinchonine, has the formula ($C_{40}H_{24}N_2O_2$), and can be obtained in a crystallized state.

C. bark itself has, in later times, fallen into comparative disuse, owing to the discovery of the alkaloid quinine, which is now extensively in use in medicine in the form of sulphate or disulphate of quinine, and is given in doses of from one to twenty grains, in almost all the cases to which the bark was supposed to be applicable.

CINCHONACEÆ, *sín-kō-nū'sē-ē*: a nat. ord. of exogenous plants, consisting of trees, shrubs, and herbaceous plants, with simple, entire, opposite, or whorled leaves, and stipules between their footstalks. The calyx is adherent to the ovary; the corolla is tubular and regular, its segments are equal in number to those of the calyx, when the calyx is divided; the stamens arise from the corolla, and are alternate with its segments. The ovary is surrounded by a disk, and usually two-celled; the style single, the fruit either splitting into two halves or not splitting at all, either dry or succulent.—This order has been very generally regarded by botanists as a sub. ord. of *Rubiaceæ* (q.v.), but far exceeds all the rest of that order, both in the num-

CINCIA LEX.

ber and importance of its species, of which from 2,500 to 3,000 are known, mostly tropical, and the remainder, with few exceptions, sub-tropical. The C. are nearly allied to *Caprifoliaceæ* (woodbines or honeysuckles, etc.), and interesting relations have been pointed out between them and *Umbelliferae*. They constitute a very large part of the flora of tropical regions. Besides the genus *Cinchona* (q.v.) and other genera producing febrifugal barks—*Exostemma*, *Condaminea*, *Pinckneya*, *Portlandia*, etc.—the order produces a number of valuable medicinal plants, of which ipecacuanha (q.v.) is the most important. The coffee (q.v.) shrub belongs to it; also the tree which yields Gambir (q.v.). It produces a number of plants employed in dyeing, among which are the Chay Root or Choya, and some species of *Morinda*. Some trees of this order yield valuable timber. Many of the species have beautiful and fragrant flowers; and some produce pleasant fruits, among which are the Genipap (*Genipa Americana*) of S. America the native peach (*Sarcocephalus esculentus*) of Sierra Leone, and the voavanga of Madagascar (*Vangueria edulis*).

CINCIA LEX, *sīn'shī-a lēks*: an enactment by M. Cincius, a tribune of the people, A.U.C. 549, which decreed that no man should take any money from a client as a gift or fee in judging a cause.

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CINCINNATI, *sīn-sīn-nāt'ē*, one of the great cities of the United States, the largest in Ohio; near the s.w. corner of that state, in Hamilton co., on the n. bank of the Ohio river, opposite the mouth of the Licking river, and the cities of Covington and Newport in Kentucky. In the midst of a vast fertile region, and half way down the navigable Ohio river, its situation is favorable to growth and prosperity. It lies in a valley surrounded by hills between 400 and 500 ft. in height, forming an amphitheatre of great beauty. The area of the city is 24,320 acres, or about 38 sq. m. Its total extent along the river-front is about 11 miles.

Topography, etc.—C. is built principally upon two terraces, the first about 60 ft., the second about 110 ft. above the ordinary level of the river. By annexation it has now come to include a considerable portion of the hill-region, which forms an amphitheatre some 3 m. in diameter e. and w., and $1\frac{1}{2}$ m. in radius n. and s., around the heart of the city. Several suburban villages have thus been taken into the city. Of particular regions of the city, the most distinctive in character is the German district in the n.e. part, called 'Over the Rhine,' and separated from the rest of the city by a portion of the Miami and Erie canal, locally called the Rhine. The West End is the fashionable district. The climate of C. and the surrounding country is similar to that of other localities of the same latitude and altitude in the Mississippi valley. The annual mean temperature is 56° F.; the mean temperature of Jan. is 35°, that of July 78 5°. The maximum temperature in the summer is usually about 96° or 97°; the minimum temperature of winter is usually about zero. The average annual rainfall is about 45.5 inches. The prevailing winds are from the s.e. The n.w. wind is the forerunner of storms in summer and of cold in winter. The rate of mortality in the city in 1902 was 18.88 per thousand.

Parks, etc.—The largest park is Eden park, 206 acres, about a mile e. of the centre of the city; the large reservoirs of the water-works are located in it. Burnet-woods park, n. of the city, and about 2 m. from its centre, contains 163½ acres. It has a lake of some 3 acres., used for boating and for skating. Free open-air concerts are given in this park each week in the season, the funds being provided by an endowment of \$50,000 given by a citizen of C. Lincoln park, of 10 acres, also has a small lake; this park is in the w. end. In the central part of the city are several small open-air spaces, of an acre or two in area. C. has a considerable number of cemeteries, of which five are Jewish, five Rom. Cath., and four German. Burials within the city are now forbidden; most of the bodies have been removed from the old burial-grounds, and the sites of some are now occupied by buildings. Of the cemeteries outside of the city the most picturesque is Spring Grove cemetery, 600 acres, consecrated 1845, one of the largest and one of the most picturesque in the United States. It is laid out after the manner of a park, with lawns trees, lakes, and shrubbery. There is a beautiful

PLATE 2.

Cinchon
Cinerary



Cinchona lancifolia.



Cinchona (*Cinchona succirubra*).



Cineraria cruenta.



Cineraria (garden variety).



Cinerary Urns.—British Museum.

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mortuary chapel, of blue limestone with trimmings of sandstone; also a soldiers' monument, consisting of a bronze statue with granite pedestal; and many beautiful private monuments.

Suburbs.—Some of the most important of the formerly suburban villages around C. have been incorporated within its limits. Chief among these are Brighton, formerly the locality of the stock-yards, Fairmount, Mount Auburn at the n., a district of elegant residences, and at the s.e. Fulton and Pendleton. Of the remaining suburbs, Clifton, on the n., is one presenting great beauty of landscape gardening. Its avenues are lined with fine shade-trees, and some of the finest villas in C.'s environs are to be found in it. It has also a handsome town-hall of brick, containing the public offices and the principal school. Avondale, e. of Clifton, is another beautiful suburb, containing many fine residences. Mt. Washington, on the n.e., has similar characteristics. Its landscape gardening, and especially its magnolias, are specially notable. Other suburban places are Delhi and Riverside to the w., Madisonville and Linwood to the n.e., St. Bernard to the n., and at a greater distance to the n., Hartwell and Lockwood, Glendale and Reading. On the Kentucky side of the Ohio are the cities of Covington and Newport, which by the census of 1900 had populations of 42,938 and 28,301 respectively, and, though in another state, are virtually suburbs of C. They are situated, the former on the w., the latter on the e. side of the mouth of the Licking river. Bellevue and Dayton, in Ky., also suburbs of C., extend to the e. of Newport.

Streets, etc.—The streets are laid out with great regularity, crossing each other at right angles, and are broad and well-shaded. Originally paved with limestone, if paved at all, they have since been paved with cobble-stones or with artificial preparations. The number of miles of streets, avenues, and alleys is nearly 650. In the central part of the city the streets running e. and w. are numbered. The esplanade, an oval 400 ft. long, is regarded as the centre of C. Horse-cars run to all parts of the city and suburbs, including those upon the Kentucky side. There are also dummy-railroads, etc.; and four great inclined-plane elevators give communication with the hill-tops on the e., n., and w. Three immense bridges span the Ohio river at C., the most important of which is the great suspension bridge connecting C. with Covington. When built, it was the largest single-span bridge of its class in the world. The towers which sustain the cables are 230 ft. high; they are higher, and each one contains more stone, than the Bunker Hill monument. The distance from those on the Ohio shore to those on the Kentucky shore is 1,057 ft. The bridge has a width of 36 ft., and has double tracks for the horse-railroads to Covington and Newport, two carriage-ways, and two ways for pedestrians. The total length of the bridge is 2,252 ft., and its height above low-water mark is, in the centre, 103 ft.; it was completed and opened to the public, 1867, Jan. 1. The bridge connecting C. with Newport,

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Ky., is a mile e. of the suspension bridge, and is 100 ft. above low-water mark. This bridge is of wrought iron, and rests on 11 piers. Including its approaches, its length is 3,090 ft.; the channel span is of 405 ft. Though built for a railroad bridge, it contains ways for foot-passengers, carriages, and horse-cars. A third bridge, of wrought iron, which with its approaches is over a mile in length, is used exclusively for the Cincinnati Southern railroad. It is about 1½ m. w. of the suspension bridge, and connects C. with Ludlow, Ky. The 11 m. of water-front are occupied by many wharves, or 'landings.' Most of these are private property, and are used for log-rafts, coal-boats and barges, and lumber. Most of those owned by the city are leased, but in the central portion is what is called the 'public landing,' used for general steamboat traffic. Bath-houses are numerous in C., and the city maintains a public swimming-bath, moored in the Ohio river during the summer.

Water-works, etc.—The water-supply of C. is obtained wholly from the river. The pumping-house, situated on the river-bank, contains 7 large pumping-engines, with a combined pumping capacity of about 87,000,000 gallons a day. These engines lift the water into the old reservoir, comparatively small, and into two new reservoirs in Eden park with a capacity of 100,000,000 gallons. They are constructed in a natural ravine, across the mouth of which an immense wall of solid masonry has been thrown. The old reservoir supplies the s. part of the city, and some of the w. Those in Eden park supply the parts n. of this, up to the hills. A second pumping-house lifts water from these last up to two great boiler-iron reservoirs upon the hills in the n. of the city, by means of which those regions are supplied. There is also a sixth reservoir, on Price's hill, in the w. part of the city. The water-works are owned and operated by the city. Gas is supplied, under some limitations on the part of the city, by a joint-stock corporation, which also in part supplies the suburbs. Part of the city has surface drainage; part is drained by sewers.

Public and Private and Buildings.—The most imposing of the public buildings of C. is the United States government-building, containing the custom-house, post-office, United States courts, and assistant treasurer's office. It is in the centre of the city, of granite, in the Renaissance style, with four stories and a mansard roof above the sidewalk, and basement and sub-basement below. It is 354 ft. long and 164 ft. wide, and cost about \$6,000,000. The county court-house of Hamilton co. is a large and imposing building, 200 ft. square, and four stories high. It is built of Dayton stone, in the Roman Corinthian style, and contains the county courts, the rooms of the county officers, and the law library. The city building, containing most of the offices of the city government, is also large and handsome. One of the chief ornaments of the city is the music hall and exposition building, in which is held, each autumn, an exhibition of arts, manufactures, agriculture, and other industries, foreign and domestic. The building is of brick, in the modernized Gothic style, 402 ft. long by 316

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wide. The music hall seats 4,428 persons, and provides standing room for 3,000 more, besides which the stage will accommodate 1,500. It contains a great organ, of 6,237 pipes, which was built in Boston; but its artistic screen of wild-cherry was designed and carved by residents of C. This building cost about \$500,000. The masonic temple, of massive freestone, in the Byzantine style, cost about \$200,000. Of the theatres of the city, Pike's opera-house is architecturally the most important; it is of fine sandstone, in the Elizabethan style. There are more than a hundred public halls.

Churches.—Church Region is a name given to the district in the vicinity of St. Peter's cathedral, there being no less than 10 churches within a radius of one square from the cathedral, the total number of churches in C. of all denominations is 175, the Rom. Cath. leading with 45, followed by the Meth. Episc. 22, Presb. 17, and Prot. Episc. and Bapt. each 16. The finest, architecturally, is St. Peter's Cathedral (Rom. Cath.). The main walls of the cathedral are of Dayton limestone, while the basement is of blue sandstone. The steeple, 221 ft. high, is of very graceful proportions. At one end is an altar of Carrara marble, with two angels on each side, the work of Hiram Powers. Opposite is an organ of 2,700 pipes. Finest among the paintings of the cathedral is that of *St. Peter Liberated by an Angel*, by Murillo, taken by the French from the Spaniards during the Peninsular war; it was presented by Cardinal Fesch, uncle of Napoleon, to the bishop of Cincinnati.

The largest hospital of the city is the C. hospital, one of the largest and best appointed in the world. It occupies two entire squares, and consists of 8 separate buildings, arranged around a central court yard. Its capacity is large and its staff numerous; it has also an excellent library. It is a charitable institution of the city, but with provision for pay-patients. Of hospitals under private management, the largest is the Good Samaritan hospital, occupying a building originally constructed for a United States marine hospital. It is under the care of the sisters of charity, and can accommodate nearly 200 patients. Other hospitals are St. Mary's hospital, under the care of the sisters of the poor of St. Francis, the Jewish hospital, and the hospital for contagious diseases. Longview asylum for the insane, situated about 8 m. n. of C., is one of the largest of such institutions in the w. It is supported by Hamilton co. The city workhouse or prison, an immense structure, 3½ m. from the centre of the city, is one of its most imposing buildings. Near it is a large building of limestone, called the house of refuge, a house of correction for criminal youth of both sexes, between the ages of 8 and 16 years. The C. orphan asylum is the oldest charity of its kind in the w.; and there are many other charitable institutions, with buildings of more or less architectural merit.—C. is compactly built, and the houses are of a substantial character, though generally plain in architecture.

The principal monuments are those in honor of Col. R. L. McCook, of the 9th Ohio regiment, and of Wm. Wood

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ward, founder of the Woodward high-school. The finest cut-door work of art with which the city is embellished is the Tyler Davidson fountain, given to the city in memory of a citizen of that name. It stands in the centre of the esplanade, on Fountain square. The base and basin are of porphyry, the fountain itself of bronze, with many figures of high artistic merit, emblematic of the uses of water. The fountain is 38 ft. high, was designed and cast in Germany, and cost \$105,000.

Railroads, etc.—The railroads entering C. number 24 in all. Of these the principal are the Baltimore and Ohio, the C. Southern, the Ohio and Mississippi, the C. Hamilton and Dayton, the C. Indianapolis St. Louis and Chicago, the Cleveland Columbus C. and Indianapolis, and the C. and Marietta. The first railroad to the city was built 1842. The C. Southern, running to Chattanooga, was built and is owned by the city itself; it is managed for the city by a board of trustees. There are six railroad depots. That of the C. Hamilton and Dayton is large and ornate, and accommodates several other railroads. The Kentucky Central has its depot in Covington. The Miami and Erie canal, popularly termed the 'Rhine,' traverses the city in a s.e. direction, and empties by an underground tunnel into the Ohio river. For a considerable part of its course it has been converted into an immense sewer.

Commerce.—C. is a port of entry and has some foreign commerce. The first steamboat navigated the Ohio 1812. It was officially reported in 1902 that the imports amounted to \$2,757,762. In the same year there were 13 national banks in operation, having a combined capital of \$7,700,000, surplus of \$3,040,000, and dividends, \$338,000. There were also several state and savings banks. The exchanges at the U. S. clearing-house in the year ending Sept. 30, aggregated \$1,043,330,300, an increase over those of the preceding year of \$106,292,000.

Manufactures.—The Federal census of 1900 reported 5,127 manufacturing establishments, employing \$109,582,142 capital and 69,897 persons; paying \$77,539,292 for materials used and \$33,965,210 for wages; and yielding products of an aggregate value of \$157,806,834. The principal articles, according to the value of products, were men's clothing, in factories (\$11,950,648); foundry and machine shop products (\$11,705,778); packed meat, wholesale (\$9,532,057); leather (\$9,419,687); boots and shoes, in factories (\$8,788,424); and malt liquors (\$6,387,383). Other important manufactures were safes and vaults, furniture, soap and candles, saddlery and harness, cigars and cigarettes, and publications. C. ranked next to Chicago in the pork-packing industry.

Government and Finance.—The government of the city is vested in the mayor, common council, board of city commissioners, board of police commissioners, board of fire commissioners, and board of education. The board of city commissioners have charge of public works. The police force numbers about 400 men, the fire department about 200. The steam fire-engine was first brought into use here. The county returns two members to the United States house of representatives, and has cast the majority

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of its vote for the republican party; the city is usually democratic. The assessed valuation of C.'s taxable property in 1902 was \$211,347,880. The tax-rate was \$2.31 on each \$100 of assessed valuation for all property. The net public debt, 1903, was \$25,429,763.

Educational Institutions.—The system of public schools is extensive. There are about 900 teachers, and about 46,000 pupils, upon the average, in daily attendance. There are two high schools, the Woodward High School and the Hughes High School, each established and endowed by wealthy citizens. There is a separate system of schools for colored children, including a high school. An integral part of the public educational system is the Univ. of C., which includes an academic department, two medical colleges, one of which has long been famous, a college of dental surgery, and a college of pharmacy. The astronomical observatory, with an 11-inch telescope, is connected with the univ. The C. Wesleyan College is for young women. There is also a Hebrew college, and two Rom. Cath. colleges, St. Joseph's and St. Xavier's. The C. College consists now of a law school merely. There are 3 medical schools besides those already mentioned, and a theological school, Lane Theo. Sem., Presb. The college of music and the school of design are large and valuable institutions. C. has achieved great importance as a centre of musical and artistic efforts and is indeed in both these matters among the most noted of American cities. The artistic potteries of the city have an especial reputation.

The most important libraries are the public library, containing about 203,684 books and 27,208 pamphlets, the mercantile library, and the libraries of the professional schools. The Historical and Philosophical Soc. of Ohio has a valuable library. The Zoological Soc. of C. has a fine and extensive zoological garden. There were reported in C. 1902, 94 periodicals. Of these 9 were daily papers, the most influential being the *Engineer* and *Post*, and 19 were German.

History.—C. was settled by a party under Israel Ludlow. The name Losantiville was given to it by a pedantic school-master, being a hybrid word intended to signify 'the town opposite the mouth of the Licking.' The site was probably selected as being on the Indian trail between Detroit, the Great Lakes, and Lexington, Ky., where the trail crossed the Ohio river. The ground on which the city stands was purchased by Matthias Denman, who associated with himself Robert Patterson and John Filson. The latter was killed by Indians while on a visit to the site of the proposed settlement, and Ludlow took his place in the enterprise. The date of the actual settlement is involved in doubt, though 1788, Dec. 28, is generally celebrated as the birthday of the town. By the annexation of Columbia the city obtained the right to date back its settlement to 1788, Nov., as a party had landed and settled there previous to the appearance of Ludlow and his companions. The early growth of the town was impeded by the Indian wars under Harmar, St. Clair, and Wayne. The name C. was given to the place, 1790, when St. Clair came to it as gov. of the n.w. territory. It was given in

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honor of the society of the Cincinnati. The first newspaper was issued 1793; the first library was started 1814. C. was incorporated as a city 1819. Its increase was most rapid in the period preceding 1850. The pork-packing industry developed so largely that C. was sometimes called ‘Porkopolis.’ The democratic convention which nominated Buchanan met here 1856; that of the liberal republicans which nominated Greeley, 1872; that of the republicans which nominated Hayes, 1876; the democratic, nominating Hancock, 1880. Formidable riots occurred at C. in 1884, occasioned by defect of justice in the courts.

Population.—The population in 1800, only 750, had grown in 1860 to 161,044; (1870) 216,239; (1880) 255,139. Of these, 8,179 were colored, 38 Chinese and Japanese, and 10 Indians. C. was at the time of that census the eighth city in the Union. Of the total pop., 71,659 were foreign-born. Of these, 46,157 were born in Germany, 15,077 in Ireland, and 3,086 in England. The large proportion of German inhabitants gives a somewhat foreign tone to parts of C., especially the district ‘over the Rhine.’ Pop. (1890) 296,908; (1900) 325,902.

CINCINNATI, *sīn-sīn-nāt'ē* (the Cincinnatus): society or order in the United States, established by the officers of the revolutionary army in 1783, ‘to perpetuate their friendship, and to raise a fund for relieving the widows and orphans of those who had fallen during the war.’ It was so named because it included patriots, headed by Washington, who in many instances had left rural affairs to serve their country (see CINCINNATUS). It had no political purpose or bearing whatever. The badge of the society is a bald eagle suspended by a dark-blue ribbon with white borders, symbolizing the union of France and America. On the breast of the eagle there is a figure of Cincinnatus receiving the military ensigns from the senators, with the plow in the background; round the whole are the words, *Omnia reliquit servare rempublicam*. On the reverse, the same hero is represented crowned by fame with a wreath on which is inscribed *virtutis præmium*, etc. As this distinction was made hereditary, it was attacked, as opposed to republican equality. Franklin saw in it the germ of a future aristocracy, and at a meeting in Philadelphia, 1784, several changes were made in the constitution of the society, and in several of the states it was quietly abolished. There are still, however, several state societies, which hold a general meeting by delegates triennially. Washington was chosen its pres. gen., 1787. Robert Burnet, of New York was the last survivor of the original members; he died 1854. The well-known Tammany Society of New York, was organized in opposition to the C., which was supposed to represent the more aristocratic classes.

CINCINNATUS, *sin-sin-nā'tus*, LUCIUS QUINTIUS: b. abt. B.C. 519; Roman consul, regarded by the later Romans as the model of antique virtue and simple manners. So far as his character can be discerned through the veil of legend, C. appears to have been a violent patrician. About B.C. 460, he was chosen consul, and two years later, was made dictator. When the messengers from Rome came to

CINCINNUS—CINERARIA.

tell C. of his new dignity, they found him plowing on his small farm. He soon rescued the consul Lucius Minucius, who had been defeated and surrounded by the *Æqui*. Livy's account of the mode in which the deliverance was effected is rejected by Niebuhr, who points out the inconsistencies and impossibilities of the story, and seems disposed to regard the whole as a mere myth. We are next informed that, after a dictatorship of 16 days, C. returned to his small farm on the Tiber. When 80 years old he was once more made dictator (B.C. 439), and suppressed a threatened plebeian insurrection.

CINCINNUS, n. *sīn-sīn'ūs*, or **CICINUS**, n. *sīs-īn'ūs* [Gr. *kikīnōs*, or *kikinnos*, a lock of hair, a curled lock]: applied to the hair on the temples; in bot., an inflorescence; a scorpioid cyme.

CINCLIDES, n. plu. *sīn'klī-dēz* [Gr. *kingklis*, a lattice, a grating]: apertures in the column walls of some sea-anemones, which probably serve for the emission of the cord-like craspeda.

CINCTURE, n. *sīngk'chūr*, or *-chūr* [L. *cinctūrā*, a girdle—from *cinctus*, girded: It. *cintura*: F. *ceinture*]: a belt; a girdle; something worn round the body; a carved ring at the bottom and top of a pillar. **CINC'TURED**, a. *-chūrd*, encircled with a belt or ring.

CINDER, n. *sīn'dēr* [AS. *sinder*, dross, scum: Icel. *sindr*, dross of iron, slag—from *sindra*, to throw out sparks, to sparkle: Ger. *sinter*, dross of iron: comp. F. *cendre*—from It. *cenērē*; L. *cinērēs*, ashes]: any body or piece of matter thoroughly burnt, but not reduced to ashes—thus the refuse of a fire consists of ashes and cinders. **CIN'DERY**, a. *-ī*, resembling cinders. **CINDER-BED**, in geol., a stratum of the Middle Purbeck series, almost wholly composed of oyster-shells. **CINDER-FRAME**, n. a frame-work of wire, etc., in a chimney, or in front of the tubes of a locomotive, to prevent the escape of cinders. *Note*.—**SINDER** is the true spelling and not *cinder*; the spelling *cinder* arose through confusion with F. *cendre* with which it is wholly unconnected; the primary sense of *cinder* is, ‘that which flows,’ hence, ‘the dross or slag of a forge’.

CINEMATOGRAPH: see **BIOGRAPH**.

CINENCHYMA, n. *sī-nēn'kī-mă* [Gr. *kinēō*, I move—*eng'chuma*, an infusion]: in bot., laticiferous tissue formed by anastomosing vessels. **CINENCHYMATOUS**, a. *sī'nēn-kīm'ā-tūs*, having laticiferous tissue.

CINERARIA, n. plu. *sīn'ēr-ā'rī-ā* [L. *cinērēs*, ashes]: genus of plants of the nat. ord. *Compositæ*, sub-order *Corymbiferae*, very nearly allied to *Senecio* (Groundsel, Ragwort, etc.), from which it differs only in having the involucle formed of one row of equal erect scales. The species are numerous, and widely diffused over the world in very various climates. They are annual or perennial herbaceous plants; with simple, generally toothed or sinuate leaves. Many of them are remarkable for a peculiar white down which gives an ashy appearance especially to the lower part of the leaves, whence their name. The flowers

CINERARY—CINERARY URNS.

of some are very pretty. *C. maritima*, native of the s. of Europe, and other species, have been much cultivated in gardens and green-houses. Many hybrids and varieties have been produced by cultivation.

CINERARY, a. *sīn'ēr-ēr-ē* [L. *cinerāriūs*, relating to the ashes of the dead—from *cin'ērēs*, ashes]: relating to ashes, applied to sepulchral urns containing the remains of bodies reduced to cinders and ashes. **CINEREALS**, n. plu. *sī-nē-rī-āls*, vegetable and mineral ashes, and other mineral compounds, used as manures. **CINEROUS**, a. *sī-nē'rī-ūs*, or **CINERITIOUS**, a. *sīn'ēr-īsh'ūs*, resembling ashes in color; a mixture of white and black; gray. **CINE'REOUSLY**, ad. -*bī*. **CINERESCENT**, a. *sīn'ēr-ēs'ēnt*, approaching ash-color or gray.

CINERARY URNS: used by the nations of antiquity to contain the ashes of the dead when gathered from the funeral pile. Previous to being deposited in the urn, the embers were soaked with wine; the urn was then placed in a niche in the family mausoleum. Only the wealthy



Fig. 1.

could afford so expensive a rite. C. U. were either sculptured in marble, or formed of clay or glass. They were not always in the form in which we commonly see them represented on modern tombs. Fig. 1 of the accompanying illustrations is the celebrated cinerary urn known by the name of the Portland or Barberini vase, preserved in the

British Museum. This beautiful production of Greek art was discovered about the middle of the 16th c., in a marble sarcophagus in a sepulchre (believed to be that of the Roman emperor Alexander Severus, A.D. 223–235) at Monte del Grano, near Rome. The height of the urn is 10 inches.



Fig. 2.

Fig. 2 is one of the finest specimens yet discovered in the British Isles, and is preserved in

CINGALESE—CINNAMIC ACID.

the museum of the Royal Irish Acad.; found in a small stone chamber near Bagnalstown, county of Carlow. It is composed of very fine clay, and is but $2\frac{1}{2}$ inches high. It contained the burned bones of an infant or very young child.

CINGALESE, a. *sing'gā-lēz*: of or pertaining to Ceylon.

CINISI, *chē-nē'sē*: town of Sicily, province of Palermo, 14 m. w.n.w. of Palermo, near the coast. It is a neat, cheerful town, with straight regular streets. The Benedictine convent here was once a feudal castle. Pop. 6,000.

CINNA, *sīn'na*, LUCIUS CORNELIUS: Roman noble, one of the principal supporters of the faction of Marius. After Sulla had driven Marius from the city, and before setting out on his expedition against Mithridates, he allowed C. to be elected to the consulship. But C. had no sooner entered upon that office (B.C. 87), than he impeached Sulla, endeavored to form an interest among the citizens who had been added to Rome after the social war, and agitated for the recall of Marius: see MARIUS. After a cruel massacre of the Roman citizens, in which some of the most eminent statesmen and orators were slain Marius and C. declared themselves consuls. On the death of Marius, which occurred a few days after his usurpation, C. made L. V. Flaccus his colleague for that year, and C. P. Carbo for the two succeeding years. In B.C. 84, he prepared to meet Sulla, who was then on his way from the east to take vengeance upon his enemies; but he was slain by his disaffected troops at Brundusium. During his fourth consulate his daughter Cornelia had been married to Julius Caesar.

CINNABAR, n. *sīn'nā-bār* [L. *cinnab'āris*; Gr. *kinnab'-āri*, red-lead or vermillion]: an ore of mercury, from which almost all the mercury of commerce is obtained. Chemically, it is a bisulphuret of mercury, containing 86·2 parts of mercury and 13·8 of sulphur. It occurs both crystallized and massive, frequently disseminated. Its crystals are six-sided prisms. It varies from perfectly opaque to almost transparent; has an adamantine almost metallic lustre, and a carmine color, with a bright scarlet streak. Its specific gravity is 8-8·2. *Hepatic C.*, so called from its liver-brown color, is a variety containing a little carbon. C. occurs sometimes in primitive rocks, more frequently in those of the coal formation, and sometimes even intimately mixed with coal itself. It is, however, a rare mineral. The C. mines of Almaden, in Spain, have been worked for about 2,300 years, and are still the most productive in the world. At Almaden, the C. is found in a dark-colored slate mixed with quartzite. Next to the mines of Almaden, rank those of Idria in Carniola. C. mines are also in Germany, Hungary, Peru, California, China, Japan, etc. C., reduced to powder, is used as a pigment under the name of *Vermilion*. CIN'NABARINE, a. -īn, of or containing cinnabar.

CINNAMIC ACID AND THE CINNAMYL SERIES: the acid combination of oxygen with the oil of cinnamon—being one of the series. Cinnamyl is a compound radical, as yet unisolated, represented by the formula $C_{18}H_7O_2$.

CINNAMON.

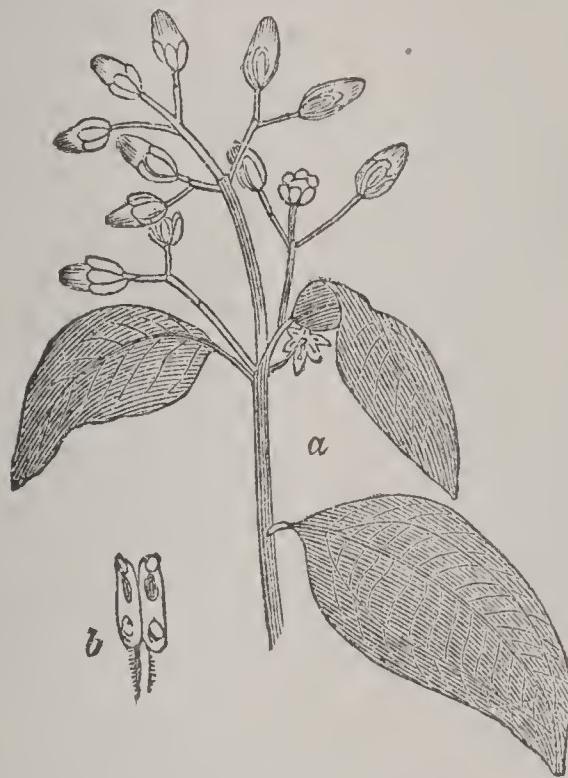
and including among its compounds cinnamic acid ($C_{18}H_7O_3$, HO), oil of cinnamon, which is chemically a slightly impure aldehyde of cinnamic acid, or a hydride of cinnamyl ($C_{18}H_7O_2$, H), chloride of cinnamyl ($C_{18}H_7O_2$, Cl), styrene or peruvine, known chemically as cinnamic alcohol ($C_{18}H_{10}O_2$), cinnamol and styrol, each represented by the formula $C_{16}H_8$, and styracin ($C_{18}H_{16}O_4$). The most important of these compounds are cinnamic acid and oil of cinnamon. *Cinnamic Acid* ($C_{18}H_8O_4$) crystallizes in colorless prisms, which are sparingly soluble in cold water, but dissolve readily in boiling water, alcohol, and ether. It fuses at 266° , and boils with or without decomposition, according to the manner in which it is heated, at about 570° . It is converted by most decomposing agents into benzoyl compounds, such as benzoic acid, oil of bitter almonds, etc.; for example, when fused with hydrate of potash it assimilates the elements of water, and breaks up into acetic and benzoic acids; when boiled with peroxide of lead it is converted into oil of bitter almonds and benzoic acid, etc. It exists naturally in a free state in liquid storax, the balsams of Tolu and Peru, and gum benzoin, and is often deposited in large crystals from old samples of oil of cinnamon and from cinnamon water. It is always formed from oil of cinnamon when the latter is exposed to the action of the air, and it has been synthetically or artificially formed by exposing equivalent quantities of chloracetyl ($C_4H_3O_2Cl$) and oil of bitter almonds ($C_{14}H_6O_2$) to a prolonged heat in a closed glass tube. *Oil of Cinnamon* and *Oil of Cassia*, though prepared from different kinds of trees, are virtually identical in their composition, each consisting mainly of cinnamic aldehyde, or hydride of cinnamyl, mixed with certain resinous matters. Oil of cinnamon is an article of the *materia medica*, and in doses of one minim to a five-grain pill, forms an excellent aromatic addition to carthartic pill-masses.

CINNAMON, n. *sīn'nu-mōn* [Gr. *kināmōmon*; L. *cinnamum*, or *cinnāmōmum*—from Heb. *qinnāmón*, cinnamon]. the inner bark of a tree that grows in Ceylon, Sumatra, Borneo, etc.; the *Cinnāmōmum zeylan'icum*, ord. *Lauracēæ*. CINNAMIC, a. *nūm'ik*, of or from cinnamon.

CINNAMON: spicy, aromatic, and stimulating bark of certain species of the genus *Cinnamomum*. This genus belongs to the nat. ord. *Lauraceæ*, and was formerly included in *Laurus*. It contains a considerable number of species, natives of tropical and subtropical parts of the east. C. has been in use from the remotest antiquity. It is mentioned in the Old Testament, and by a name almost the same as that which it still bears in most languages. The finest kind is said to be chiefly produced by *Cinnamomum Zeylanicum* (formerly, *Laurus Cinnamomum*), which grows chiefly in the island of Ceylon, although having been introduced into the W. Indies, 1782, with various other plants of the east, it is now cultivated there to some extent. The tree attains the height of 20-30 ft., and is sometimes $1\frac{1}{2}$ ft. in thickness. Its bark is of a grayish-

CINNAMON.

brown color, internally of a yellowish red. The leaves are oval, 4-6 inches long, with a blunt point, and marked with three principal nerves. They have the taste of cloves. The flowers are of a silky gray on the outside, and pale-yellowish color internally. The fruit is somewhat like an acorn in shape; it is a small drupe, brown when ripe. There are two seasons of cinnamon-harvest in Ceylon, the first commencing in April, and the last in November—the former being that in which the chief crop is obtained. The



Cinnamon:

a, end of branch, with leaves and flowers; *b*, four-celled anther.

branches of 3-5 years' growth being cut down, the epidermis is scraped away; the bark is then ripped up longitudinally with a knife, and gradually loosened, till it can be taken off. The slices are then exposed to the sun, when, as it dries, it curls up into *quills*, the smaller of which are inserted into the larger, and the whole tied up into bundles of about 88 lbs. each. C. is examined and arranged according to its quality by persons who are obliged for this purpose to taste and chew it, though in a short time it produces painful effects on their mouths and tongues. The finest C. is yielded by the young branches of the tree, especially by the numerous shoots which spring up from the stump after a tree has been cut down, and which are cut when about 10 ft. long, and of the thickness of an ordinary walking stick. The smell, particularly of the thinnest pieces, is delightfully fragrant, and the taste pungent and aromatic, with a mixture of sweetness and astringency. It is used like other spices by cooks and confectioners, and also in medicine as a tonic, stomachic, and carminative. The average quantity annually imported into London is about 500,000 lbs. Its virtues depend chiefly upon the essential oil which it contains (*Oil of Cin-*

CINNAMON-STONE—CINQUE.

namon). Oil of cassia is very often substituted for this oil, as cassia—which, however, may readily be distinguished by its mucilaginous taste—is for cinnamon. The root of the C. tree contains camphor. The fruit yields a concrete oil, called *Cinnamon Suet*, which is highly fragrant, and in Ceylon was formerly made into candles, for the exclusive use of the king.—**CASSIA** (q.v.) is the produce of another species of *Cinnamomum*.—*C. Loureirii*, native of Cochin China and Japan, is said to yield a bark even superior to that of *C. Zeylanicum*. A species of C. grows at the elevation of 8,500 ft. in the Sikkim Himalaya; it is thought that it might thrive in England or the United States.

The constituents of C. are a volatile oil (*Oil of C.*), tannin, starch, mucilage, woody-fibre, resin, coloring matter, and an acid. The oil of C. is generally prepared in Ceylon by grinding the coarsest pieces of C., soaking them in sea-water for two or three days, and then distilling. Two oils pass over, one lighter, the other heavier, than water. Oil of C. varies in color from yellow to cherry-red, the yellow variety being considered the best and is most highly esteemed. *Oil of C. leaf* is prepared from the leaves in Ceylon by a similar process, and is met with in commerce under the name of *clove oil*, which it much resembles in odor. *C. water* is obtained by adding water to C., and distilling a large quantity, or by diffusing the *oil of C.* through water by the aid of sugar or carbonate of magnesia. *Spirit of C.* is procured by acting upon C. with spirit of wine and water, and distilling; and *tincture of C.* by soaking C. in spirit of wine, and straining. The medicinal properties of C., and its preparation, are aromatic and carminative, and it is serviceable in cases of nausea and vomiting, and in cases of flatulence and spasmodic states of the stomach and alimentary canal.

CIN'NAMON-STONE: a precious stone, of which the finer specimens are highly esteemed; it is regarded as a variety of garnet (q.v.). Its color varies from hyacinth red to orange yellow, and when pure it is transparent. It is composed essentially of silica, alumina, and lime. It is found chiefly in Ceylon, where vast boulders of gneiss containing it in profusion exist in many places.

CIN'NYRIS: see SUN-BIRDS.

CINQUE, n. *singk* [OF. *cinq*; F. *cinq*, five—from L. *quinquē*, five]: five; a word used in games. **CINQUE-FOIL** [L. *foliūm*, a leaf]: a plant belonging to the genus *Potentil'la*, ord. *Rosacēæ*, sub-ord. *Potentil'læ*, called also *five-finger* from the resemblance of the leaves to the fingers of the hands (see POTENTILLA); in arch., an ornamental foliation consisting of five points or cusps, used in window, tracery, panellings, etc.; often represented in a circular form. **CINQUE-PORTS**, five harbors or ports on the southern shore of England opposite France. **CINQUE-SPOTTED**, marked with five spots. **CINQUE-PACE**, a kind of dance (called also *Galliard*, and *Five-paces*), which Sir John Davies thus describes—

“ Five was the number of the music’s feet,
Which still the dance did with five paces meet ,

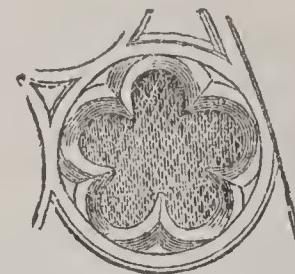
CINQUÉ CENTO—CINQUE PORTS.

CINQUÉ CENTO, *chingk'we-chēn'to* [It., five hundred]: technical, or rather *slang* artistic term, used to designate the style of art which arose in Italy after the year 1500, therefore after the fall of all the great schools. It is sensuous in its character, the subjects chosen being usually borrowed from heathen mythology or history.

CINQUEFOIL. a common bearing in heraldry, usually depicted with the leaves issuing from a ball as a centre point.



Cinquefoil:
In Heraldry.



Cinquefoil:
In Architecture.

The C. of heraldry and of architecture is not derived from any leaf of five leaflets, but, as its perfect regularity of form indicates, from the flower of the plant called C. (*Potentilla*), or other similar flower of five petals or *leaves*. The C. thus closely resembles the rose, with which it would, indeed, be identified, but that a double and not a single rose is chosen for the purposes of heraldry and decorative art.

CINQUE PORTS: five maritime ports of England opposite the coast of France—Sandwich, Dover, Hythe, Romney, and Hastings, said to have been enfranchised in the time of Edward the Confessor. But it was subsequent to the battle of Hastings that the Conqueror, in order that he might wield the resources of the seaports with greater vigor, constituted this whole line of coast into a jurisdiction entirely separate from the counties of Kent and Sussex, and erected it into a sort of county palatine, under a warden or guardian, the seat of whose administration was in Dover castle. The warden, whose office corresponded to that of the ancient count of the Saxon coast (*comes littoris Saxonici*), exercised jurisdiction, civil, military, and naval, uniting in his single person the functions of sheriff, custos-rotulorum, lord-lieutenant, and admiral. Privileges equal to those originally bestowed on the C. P. were subsequently extended to the so-called *ancient towns* of Winchelsea and Rye; and most of the municipal towns had subordinate ports and towns attached to them, which were called *members*. In place of the Saxon terms of *aldermen* and *freemen*, those of *jurats* and *barons* were introduced, and the latter term has always been applied to the representatives of the C. P. in parliament. The chief function performed by the C. P. in early times consisted in furnishing such shipping as was required for the purposes of the state, the crown having possessed no permanent navy previous to the reign of Henry VII. In the time of Edward I., they were bound

CINTRA.

to provide no less than 57 ships, fully equipped and manned at their own cost; though the weight of this heavy burden was somewhat lessened by the provision, that the period of gratuitous service should be limited to 15 days. In consequence of the warlike navy which they were thus compelled to maintain, the C. P. became so confident in their strength, and so insolent and audacious, as not only to undertake piratical expeditions but even to make war and form confederacies as independent states. Previous to the revolution of 1688, the lord-wardens were accustomed to nominate the barons, or parliamentary representatives of the C. P.; but in 1689, an act was passed to 'declare the right and freedom of election of members to serve in parliament for the cinque ports.' The acts of 1832 and 1885 reduced the number of members sent to parliament by the C. P. from 16 to 3, and the municipal reform act has broken up the ancient organization of the ports, and assimilated their internal arrangements to those of other English municipalities. The ancient courts of Stepway, Brotherhood, and Guestling are still occasionally held, but their powers scarcely extend beyond matters of form, such as appointing the barons, who are to exercise an ancient privilege of the ports, which consists in carrying the canopy over the sovereign's head at a coronation. The lord-warden's jurisdiction, in relation to civil suits and proceedings, has been abolished.

CINTRA, *sín'trā* or *sén'trā*: small but picturesquely situated town in Portugal, province of Estremadura, about 15 m. w.n.w. of Lisbon. Pop. 5,500. It stands on the declivity of the Sierra de Cintra, and is surrounded by country residences. There is a palace at C., a strange mixture of Moorish and Christian architecture, anciently occupied by the Moorish kings, and subsequently a favorite residence of the Christian monarchs. A charming view of the town and of the sea is to be had from the top of a hill crowned with the ruins of a Moorish castle. On another hill-top stands La Penna, once a convent, now a residence of the king of Portugal, who has restored and given it the outward appearance of a feudal castle. In the neighborhood, also, is what is called the Cork convent, which derives its name from the cells—which are cut out in the rock—being lined with cork to prevent damp.

C. is historically remarkable for the *Convention* concluded here, 1808, Aug. 22, between the English and French, by which the latter agreed to evacuate Portugal. Junot had been defeated by Sir Arthur Wellesley at Vimieira, and had retreated toward Torres Vedras and Lisbon, whither the English under Sir Hew Dalrymple, who had just arrived and assumed the chief command, were preparing to follow them. But the French, despairing of finally holding out, agreed to evacuate the country, on condition of not being treated as prisoners of war, but landed on the coast of France, retaining their arms and effects. This convention excited the greatest public indignation both in the Peninsula and in England. Several English newspapers appeared in mourning, and the minis-

CIONE—CIPPUS.

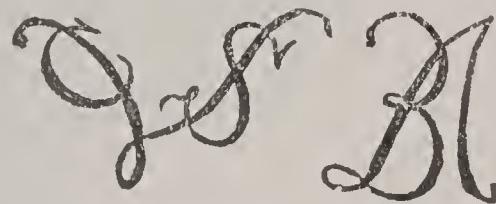
try were obliged to have the generals who signed the convention tried by a court-martial, which, however, resulted in their acquittal. In fact, though the terms of the convention might be advantageous for the French, yet to obtain immediate possession of Portugal and Lisbon, instead of being put to the necessity of a bloody siege for months, was no less advantageous to the English and their allies. Such, at least, was the opinion of two competent judges—Napoleon and Wellington.

CIONE, ANDREA DI: see ORCAGNA.

CIOTAT, LA, *lā sē-ō-tā'*: town of France, dept. of Bouches-du-Rhone, on the w. side of a bay in the Mediterranean, about 15 m. s.e. of Marseilles, in the midst of a district clad with olive, orange, and pomegranate plantations. It is well built, and has a good and commodious harbor, formed by a mole, and well defended. The industry consists in cotton-spinning, ship-building, and an active trade in the produce of the district. Pop. 8,900.

CIPER, n. *sī'per* [probably a corruption of *cipher*]: anything of little value; a sham. CIPER-TUNNEL, a false chimney, placed on a house for ornament or uniformity.

CIPHER, n. *sī'fer* [F. *chiffre*, a numeral: OF. *cifre*, zero—from mid. L. *cifra*, nothing—from Ar. *sifr*, empty a dot]: in *arith.*, the round 0 or nothing; any person or thing of little value; initials of a name intertwined in an ornamental arrangement by which they become also a private mark, adopted by artists and architects as distinctive of their work. That of Albrecht Dürer is well known. Of those given in the illustration, the first is that of Christopher von Sichem; the second, that of Adrian Bolswert. A C. is also a secret manner of writing (see CRYPTOGRAPHY): V. to use figures; to practice



Ciphers.

arithmetic; to write in concealed or secret characters. CIPHERING, imp.: N. the art or act of computing by numbers. CIPHERED, pp. *-fērd*. CIPHER-KEY, a key which enables the holder to read writings in cipher.

CIPOLIN, n. *sip'o-lin* [It. *cipollino*, a small onion: L. *cepola*, a small onion, a chive, dim. of *cepa*, an onion]: an Italian marble of white color mixed with pale greenish shadings. It is so called because its veins, like those of onions, consist of different strata, one lying upon another. It does not stand the weather well.

CIPPUS, *sip'pūs* [L. *cippus*, a stake or post]: a small, low column, sometimes without a base or capital, frequently bearing an inscription. Among the ancients the cippus was used for various purposes; when placed on a road it

CIPRIANI—CIRKASSIAN.

indicated the distance or places; on other occasions cippi were employed as memorials of remarkable events, as landmarks, and for sepulchral epitaphs; a few are found bearing the letters S. T. T. L. (*Sit tibi terra levis*, ‘May the earth be light to, or upon, thee’), on others the inscription DIS MANIBUS SACRUM, ‘Sacred to the divine manes.’

CIPRIANI, *che-pre-á'nē*, GIAMBATTISTA: 1732 (or 1727)–1785; b Florence painter and copper-engraver. When 19 years old he went to Rome, where he chose Correggio as a model, and soon gained high reputation. Invited by certain English residents in Rome, the artist came to London about 1754, where he was one of the first members of the Royal Acad. (founded 1769). He died there. His drawing is correct, his coloring harmonious, his heads have grace and loveliness, and the general style of his works is attractive, although exceedingly conventional. A series of small copperplate illustrations of *Orlando Furioso* well exemplifies his graceful style. Several of Bartolozzi’s best engravings are in C.’s manner.

CIRCAEA, *sér-sé'a* [from *Circe*, q.v.]: genus of rather pretty little herbaceous plants of the nat. ord. *Onagraceæ*, with a deeply 2-cleft calyx, a carolla of two petals, and two stamens. *C. Lutetiana* is frequent in shady situations in most parts of Europe. It bears the English name of ENCHANTER’S NIGHTSHADE, and in Germany it is called Hexenkraut (witches’ herb). The origin of such names is not easily explained. The plant possesses no remarkable properties, being merely a little astringent. Other species are found in the Himalaya, etc.

CIRCAR, *sér-kár'*: Indian word meaning section of a province; applied in English chiefly to the Northern Circars, a former division of the Madras presidency, lying on the e. coast of Hindustan, lat. $15^{\circ} 40'$ to $20^{\circ} 17'$ n. There were five—Guntoor, Rajamundry, Cicacole, Ellore, and Condapilly; the last three corresponded nearly to Masulipatam, Vizagapatam, and Gunjam. The whole area was about 30,000 sq. m., with a pop. of some 3,000,000. The Mohammedans invaded this region 1471, and had conquered much of it by 1550, but were expelled by the princes of Orissa abt. 1571. The Circars were added to Aurungzebe’s empire 1687, and afterward granted by Salabut Jung to the French East India Co., whence they passed to the British. Lord Clive obtained four of them by grant and treaty 1765–66 and Guntoor was acquired 1788. The region is fertile, 30 to 40 m. wide, bounded on the w. by mountains, and inhabited almost wholly by Hindus. It has a coasting trade with Madras and other ports.

CIRCASSIA, *sér-kăsh'i-a*: division of the w. Caucasus, comprising the n., and a portion of the s. slope of that mountain-range extending in latitude 42° – 45° n., and longitude 37° – 47° e.: see CAUCASUS.

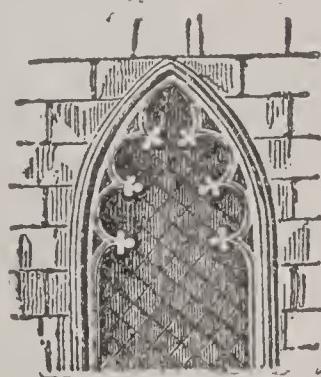
CIRCASSIAN, a. *sér-kăsh'i-án*: of or from Circassia, in Europe: n. a native of Circassia; in the wide sense the term is applied to all the independent tribes of the Caucasus; in a narrower sense it denotes the tribes who inhabit-

PLATE 3.

Cinnamon
Cinque-foil



Cinnamon (*Cinnamomum Zeylanicum*).



Cinque-foil.



Cinque-foil Window, Lincoln Cathedral,

CIRCE.

ed the w. part of the range which is called, in consequence, Circassia. The Circassians proper, however, occupied only the n.w. wing of the Caucasus, with the exclusion of Abasia or the portion between the Black Sea in the w. and the lower bank of the river Kuban in the n. They call themselves *Adighé*, but the Russians and Turks call them *Tcherkesses*. On their conquest by Russia 1864, rather than remain in subjection to that power they chose to emigrate to Turkey, and from 400,000 to 500,000, or nearly the whole nation of 15 tribes, carried this resolution into effect. The greater part of them were distributed over the Turkish possessions in Asia Minor, but others were settled in the mountainous parts of Bulgaria and on the borders of Servia. In their original country they were a marauding and warlike people, among whom it was held more honorable to live by plunder than by peaceful industry. In common with all brigand tribes, the C. cherished the most unrestrained love of independence. Their government was a singular compound of constitutionalism and feudalism. There were five distinct ranks in the nation—viz., chiefs or princes, nobles, common freemen, dependants, and slaves. The class of common freemen made up the great mass of the people, they possessed property, and enjoyed the same political rights as the nobles. The fourth class, the dependents, were the vassals of the princes and nobles, whose lands they cultivated, and whose armies they formed. Yet their lord has no right over their persons; for in some cases they and their whole families left him; and they could be sold as slaves only for punishment according to the previous verdict of a national assembly. The fifth class comprised the slaves, or those who had been made captive in war. That the C. have not lost some of the worst traits of their natural character since their settlement in Turkey is shown by their participation in the Bulgarian massacres of 1876 and 1877.

The C. princes and nobles are principally Mohammedans, while the great mass of the people have a religion which is a kind of mixture of Christianity and paganism, in which the celebration of Easter, the sign of the cross, sacred trees, sacrifice, and processions with lights, play an important part. Besides agriculture and the rearing of cattle, they possess a few other branches of industry. The C. are proverbially handsome; they are also strong, active and temperate, and are characterized by the higher attributes of self-dependence, courage, and prudence. As a nation they made their first historical appearance during the middle ages. They are, however, chiefly known through their long struggles to maintain their independence against the aggression of Russia: see CAUCASUS. For their place in ethnology, see CAUCASUS AND THE CAUCASIANS.

CIRCE, *sér'sē*: fabulous sorceress described by Homer as 'fair-haired, a clever goddess, possessing human speech,' sister of 'all-wise Æætes,' daughter of 'the Sun, who gives light to mortals, and of Perse, whom Ocean begot as his daughter.' Round her palace in Ææa were numbers of human beings whom she had changed into the shapes of

CIRCEAN—CIRCIUS.

wolves and lions by her drugs and incantations. She changed two-and-twenty of the companions of Ulysses into swine; but that hero, having obtained from Mercury the herb *Moly*, went boldly to the palace of the sorceress, remained uninjured by her drugs, and induced her to disenchant his comrades. He remained with her for a year; and when he departed she instructed him how to avoid the dangers which he would encounter on his homeward voyage (*Odyssey*, Books x. and xii.). Jealous of Scylla, whose love was sought by Glaucus, she poured the juice of poisonous herbs into that part of the sea where her rival was accustomed to bathe, and changed her into a hideous monster (*Metamorphoses*, Book xiv., fables 1 and 6).

CIRCEAN, a. *sér-sé'än* [L. *Circēus*, pertaining to *Circē*]: pertaining to Circe, the fabled daughter of Sol and Perseis, said to have first charmed her victims and afterward changed them into beasts; fascinating but noxious.

CIRCENSIAN GAMES: see CIRCUS, THE.

CIRCESIUM, *sér-sé'shi-um*: town of Mesopotamia, where the tomb of the emperor Gordian was situated.

CIRCINATE, a. *sér'si-nāt* [L. *circinātus*, turned round]: in bot., rolled inward from the summit toward the base like a crosier, as the young fronds of ferns. CIR'CINAL, a. *-sí-năl*, resembling a circle.

CIRCIUS, *sér'shii-us*: part of Mt. Taurus; also a rapid and tempestuous wind, frequent in Gallia Narbonensis, and said to be unknown in any other country.

CIRCLE.

CIRCLE, n. *sér'kl* [F. *cercle*, a circle—from L. *circulus*, a circle: Icel. *kringla*, a circle: Gr. *krikos*, a ring: It. *circolo*]: a figure contained by a single curved line called its circumference, every part of which is equally distant from a point within it called the centre; a ring; any round body; the compass or circuit of anything or placé; a sphere or station in society, as he moves in the highest circles; a number of persons, as a circle of friends; a series ending where it begins: V. to move round; to encompass; to surround or inclose; to confine or keep together. **CIR'CLING**, imp.: **ADJ.** forming in circles. **CIR'CLED**, pp. -*kld.* **CIRCLET**, n. *sér'klet*, a little circle. **GREAT CIRCLES**, in *astron.*, those circles whose planes pass through the centre of the sphere and divide it into two equal parts. **LESSER CIRCLES**, those circles whose planes do not pass through the centre of the sphere, and which divide it into unequal parts. **HOUR-CIRCLE**, a small circle near the n. pole of a terrestrial globe divided into 24 parts, corresponding to the hours in a day. **HOUR CIRCLES**, great circles of the celestial sphere. **POLAR CIRCLES**, the Arctic and Antarctic circles.—**SYN.** of ‘circle, n.’: ball; globe; sphere; circuit; orb; orbit; ring; circlet; compass; inclosure; assembly; friends.

CIR'CLE: plane figure bounded by a curved line, which returns into itself, called its *circumference*, and which is everywhere equally distant from a point within it called the *centre* of the circle. The circumference is sometimes itself called the C., but this is improper; C. is truly the name given to the space contained within the circumference. Any line drawn through the centre, and terminated by the circumference, is a *diameter*. It is obvious that every diameter is bisected in the centre: see **ARC**: **CHORD**. In co-ordinate geometry the C. ranks as a curve of the second order, and belongs to the class of the conic sections. It is got from the right cone by cutting the cone by a plane perpendicular to its axis. The C. may be described mechanically with a pair of compasses, fixing one foot in the centre, and turning the other round to trace out the circumference. The C. and straight line are the two elements of plane geometry, and those constructions only are regarded as being properly geometrical which can be effected by their means. As an element in plane geometry its properties are well known and investigated in all the text-books. Only a few of the leading properties will here be stated.

1. Of all plane figures the C. has the greatest area within the same perimeter.

2. The circumference of a C. bears a certain constant ratio to its diameter. This constant ratio, which mathematicians usually denote by the Greek letter π , has been determined to be 3·14159, nearly, so that, if the diameter of a C. is 1 ft., its circumference is 3·14159 ft.; if the diameter is five feet, the circumference is $5 \times 3\cdot14159$; and in general, if the diameter is expressed by $2r$ (twice the radius), then c (circumference) = $2r \times \pi$. Archimedes, in his book *De Dimensione Circuli*, first gave a near value to

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the ratio between the circumference and the diameter, being that of 7 to 22. Various closer approximations in large numbers were afterward made, as, for instance, the ratio of 1,815 to 5,702. Vieta, in 1579, showed that if the diameter of a C. be 1,000, etc., then the circumference will be greater than $3141\cdot5926535$, and less than $3141\cdot5926537$. This approximation he made through ascertaining the perimeters of the inscribed and circumscribed polygons of 393,216 sides. By increasing the number of the sides of the polygons their perimeters are brought more and more nearly into coincidence with the circumference of the circle. The approximation of the value of π has since been carried (by M. de Lagny) to 128 places of figures. It is now settled that π belongs to the class of quantities called *Incommensurable* (q.v.), i.e., it cannot be expressed by the ratio of any two whole numbers, however great. In general, it may be considered that 3.14159 is a sufficiently accurate value of π .

Though the value of π was at first approached by actually calculating the perimeter of a polygon of a great number of sides, this operose method was long ago superseded by modes of calculation of a more refined character, which, however, cannot here be explained. Suffice it to say that various series were formed expressing its value; by taking more and more of the terms of which into account, a closer and closer approach to the value might be obtained. We subjoin one or two of the more curious.

$$\begin{aligned}\pi &= 4 \left(1 - \frac{1}{3} + \frac{1}{5} - \frac{1}{7} + \frac{1}{9} - \frac{1}{11} + \text{etc.} \right). \\ \pi &= 8 \left(\frac{1}{1 \cdot 3} + \frac{1}{3 \cdot 5} - \frac{1}{3 \cdot 5 \cdot 7} + \frac{1}{5 \cdot 7 \cdot 9} - \frac{1}{7 \cdot 9 \cdot 11} \right. \\ &\quad \left. + \frac{1}{9 \cdot 11 \cdot 13} - \text{etc.} \right).\end{aligned}$$

3. The area of a C. is equal to π multiplied by the square of the radius ($= \pi r^2$); or to the square of the diameter multiplied by $\frac{\pi}{4}$; i.e., by .7854. Euclid has proved this by showing that the area is equal to that of a triangle whose base is the circumference, and perpendicular height the radius of the circle.

4. It follows that different circles are to one another as the squares of the radii or diameters.

The C. is almost always employed to measure angles, from its obvious convenience for the purpose, which depends on the fact demonstrated in Euclid (Book iv. Prop. 33), that angles at the centre of a C. are proportional to the arcs on which they stand. It follows from this that if circles of the same radii be described from the vertices of angles as centres, the arcs intercepted between the lines, including the angles, are always proportional to the angles. The C. thus presents us with the means of comparing angles. It is first necessary, however, to graduate the C.

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itself; for this purpose its circumference is divided into four equal parts, called *quadrants*, each of which obviously subtends a right angle at the centre, and then each quadrant is divided into degrees, and each degree into minutes, and so on. The systems of graduation adopted are various, and will now be explained.

The sexagesimal scale is that in common use. According to it each quadrant or right angle being divided into 90 degrees, each degree is divided into 60 seconds, and each second into 60 thirds, and so on. According to this scale, 90° represents a right angle; 180° , two right angles, or a semicircle; and 360° , four right angles, or the whole circumference—the unit in the scale being the $\frac{1}{90}$ th of a right angle. As the divisions of the angles at the centre, effected by drawing lines from the centre to the different points of graduation of the circumference, are obviously independent of the magnitude of the radius, and therefore of the circumference, these divisions of the circumference of the C. may be spoken of as being actually divisions of angles. By laying a graduated C. over an angle and noticing the number of degrees, etc., lying on the circumference between the lines including the angle, the magnitude of the angle is at once known. Suppose the lines to include between them 3 degrees, 45 minutes, 17 seconds, the angle in this scale would be written $3^\circ 45' 17''$.

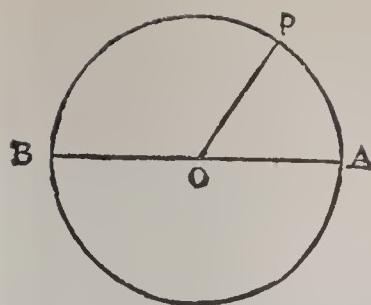
It is obvious, however, that the division of the quadrant into 90 degrees, instead of any other number, is quite arbitrary. Angles may be measured by the C., however it is graduated. Many French writers, accordingly, have adopted the centesimal division.

Centesimal Division of the Circle.—In this division, the right angle is divided into 100 degrees, while such degree is divided into one hundred parts, and so on. This is a most convenient division, as it requires no new notation to denote the different parts. Such a quantity as $3^\circ 45' 17''$ is expressed in this notation by 3.4517, the only mark required being the decimal point to separate the degrees from the parts. Of course, in this illustration, 3° means 3 centesimal divisions of the right angle, and $45'$ means 45 centesimal minutes, and so on. To translate the quantity 3° of the common notation into the centesimal notation, multiply 3 by 100, and divide by 90. To translate minutes in the common notation into the centesimal, the rule is to multiply by 100 and divide by 54.

Circular Measure is yet another mode of measuring angles: it is in frequent use, and depends directly on the proposition (Euc. vi. 33) that angles at the centre of a C. are proportional to the arcs on which they stand. Let POA be an angle at the centre O of a C., the radius of which is r ; APB a semicircle whose circumference accordingly = πr ; and let the length of the arc AP = a . Then, by Euclid,

$$\frac{\text{angle POA}}{2 \text{ right angles}} = \frac{a}{\pi r}; \text{ and } \angle \text{POA} = \frac{2 \text{ right } <\text{s}}{\pi} \cdot \frac{a}{r}.$$

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Now, supposing a and r to be given, although the angle POA will be determined, yet its numerical value will not be settled unless we make some convention as to what angle we shall call unity. We are free to make any convention that we choose, and therefore choose such a one as will render

the preceding equation the most simple. It is made most simple if we take $\frac{2 \text{ right angles}}{\pi} = 1$. We shall then have (denoting the numerical value of the angle POA by θ) $\theta = \frac{a}{r}$. The result of our convention is that the numerical

value of two right angles is π , instead of 180° , as in the method of angular measurement first alluded to; and the unit of angle, instead of being the ninetieth part of a right angle is $\frac{2 \text{ right angles}}{\pi}$, or $57^\circ 17' 44'' 48'''$ nearly.

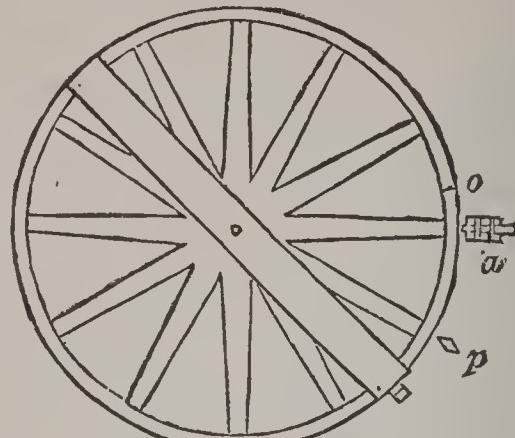
Making $\theta = 1$ in the equation $\theta = \frac{a}{r}$, we have a (or AP) = r (or AO), which shows that in the circular measure the unit of angle is that angle which is subtended by an arc of length equal to radius. It is frequently a matter of indifference which mode of measuring angles is adopted, the circular measure, however, is generally the most advantageous, as being the briefest. It is easy to pass from this mode of measurement to the sexagesimal. If θ be the circular measure of an angle, the angle contains $\frac{\theta}{\pi} \cdot 180$ degrees conversely, if an angle contain n° , its circular measure is $\frac{n}{180} \cdot \pi$.

CIRCLE, MAGIC: space in which sorcerers were wont, according to the ancient popular belief, to protect themselves from the fury of the evil spirits they had raised. This C. was usually formed on a piece of ground about nine ft. square (in the East, seven ft. appears to have been considered sufficient), in the midst of some dark forest, churchyard, vault, or other lonely and dismal spot. The C. was described at midnight in certain conditions of the moon and weather. Inside the outer C. was another somewhat less, in the centre of which the sorcerer had his seat. The spaces between the circles, as well as between the parallel lines which inclosed the larger one, were filled 'with all the holy names of God,' and a variety of other characters supposed to be potent against the powers of evil. Without the protection of this C., or passing outside its limits, the magician, it was believed, would have been carried off by the spirits.

CIRCLE, MURAL: instrument for determining the meridian altitude or zenith distance of a star. It consists of an astronomical telescope firmly fixed to a graduated cir-

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cle, which moves about a horizontal axis, fixed in a strong vertical wall running n. and s. In the common focus of the eye-piece and object-glass of the telescope is a system of cross-wires (spider lines are generally used for the purpose), one being horizontal, and five vertical, with equal



Mural Circle.

spaces between. The line joining the optical centre of the object-glass with the intersection of the horizontal and middle vertical wires, is called the line of *collimation* of the telescope, and when the instrument is in perfect adjustment, this line moves in the plane of the meridian.

Besides the above-mentioned fixed wire there is a movable one, called a micrometer wire, which is moved by means of a screw, remaining always parallel to the fixed horizontal wire.

If the instrument be so adjusted that the image of a star, while passing across the middle vertical wire in the field of view, shall at the same time be bisected by the fixed horizontal wire, the star is at that moment in the line of collimation of the telescope. It is therefore at that moment in the meridian, and its meridian zenith distance is the angle through which the circle would have been turned from the position it had when the line of collimation of the telescope pointed to the zenith. There is a fixed pointer, *p*, for the purpose of approximately reading the instrument. If the instrument were accurately adjusted, so that *p* was opposite the zero point of the circle, when the line of collimation of the telescope pointed to the zenith, the arc *op*, in the above position of the instrument, would be the meridian zenith distance of the star.

Great nicety is required in ‘reading’ the instrument; i.e. in determining exactly the arc through which the circle has moved in bringing the telescope from the vertical to any other position, such as that represented in the figure. The rim is usually graduated at intervals of five minutes; and the eye could determine only the division nearest to the fixed index *p*. But by means of a ‘reading microscope,’ or micrometer (q.v.), fixed opposite to the rim, as at *a* (the distance between the axis of which and the point *p* is constant), the portion of the interval to the nearest division on the rim can be read to seconds. There are usually six such microscopes fixed opposite different points

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of the rim; and the 'reading' of the instrument is the mean of the 'readings' of all the microscopes. This tends to eliminate errors arising from imperfect graduation and adjustment. If the instrument is properly adjusted, the zero point of the circle will be at p when the line of collimation of the telescope points to the zenith. In practice, however, this is not always accurately, or even approximately, the case. As is now to be shown, it is of no consequence, as the final result of every observation is the difference between two readings.

It is evident that the difference between any two readings of the instrument will represent the angle through which the line of collimation of the telescope moves in passing from one position to the other. It remains to show how a fixed point, viz., the nadir (q.v.), is observed, and then how an observation is taken of the star itself in its meridian passage.

We must explain here that the fixed horizontal wire in the eye-piece of the telescope, in the instruments as now used, is only an *imaginary* line which determines the line of collimation of the telescope. It coincides with the position of the micrometer wire, when the screw-head of the micrometer marks zero.

To observe the nadir, a trough of mercury is placed underneath the instrument, and the telescope is turned so as to look vertically downward into it. An image of the system of cross-wires which is in the common focus of the object-glass and eye-piece, will be reflected back again to nearly the same focus. Looking into the telescope, the observer now adjusts it by means of a tangent screw till the reflected image of the horizontal wire coincides with the real one. The final adjustment is perhaps most delicately effected by turning the screw-head of the micrometer which moves the wire itself. When they coincide, the line joining the centre of the object-glass of the telescope with the intersection between the middle vertical and horizontal micrometric wire, will be vertical. Now, the angle between this and the line of collimation of the telescope, which joins the optical centre of the object-glass with the intersection of the middle vertical and imaginary fixed horizontal wire, will, if the micrometer is in proper adjustment, be at once read off the micrometer screw-head. The instrument being clamped as above adjusted, the microscopes are read off, and the reading of the micrometer screw-head above mentioned being added to or subtracted from this reading, as the case may be, the nadir reading of the instrument is determined. The zenith reading therefore, which differs from it by 180° , is at once known.

Again, to observe a star in the meridian, the instrument is previously adjusted so that the star, in passing the meridian, shall pass over the field of view of the telescope. As the image of the star approaches the centre of the field, the observer adjusts the telescope by the tangent screw, so as very nearly to bring the image of the star to the horizontal wire. Finally, just as the star passes the middle vertical wire, he bisects the image of the star with the horizontal

CIRCLE—CIRCUIT.

wire by a touch of the micrometer screw-head. The circle being now clamped (or made fast), the 'reading' is determined as before by reading the pointer and microscopes, and adding or subtracting, as the case may be, the reading of the micrometer. This reading now subtracted from the zenith-reading gives the meridian zenith distance of the star; and this, again, subtracted from 90° , gives its meridian altitude above the horizon.

At the royal observatory (q.v.) of Greenwich, the principal observations are now made by an instrument which combines the mural C. with the transit instrument: see TRANSIT INSTRUMENT.

CIRCLE, QUADRATURE OF: see QUADRATURE.

CIRCLES OF THE SPHERE: see ARMILLARY SPHERE, under ARMILLA.

CIRCLEVILLE, *sér'kl-vil*: city and capital of Pickaway co., O., on the Scioto river, and the Ohio canal, 25 m. s. of Columbus by the Scioto Valley railroad, 104 m. e.n.e. of Cincinnati by the Cincinnati and Muskingum Valley railroad. It was founded 1810 on the site of an aboriginal circular fort, which was surrounded by two walls 20 ft. high, with a ditch between; close by was a square fortification with sides 55 rods in length. Camp Charlotte, where Lord Dunmore made a treaty with the Indians 1774, was 7 m. s.e. and Logan's famous speech was made 4 m. south. C. has some 14 churches, 18 schools, 3 newspapers, 3 banks, several building and loan associations, and a number of mills and factories. It is the centre of a rich farming region, and a market for broom corn, which is largely raised in the neighborhood. Pop. (1880) 6,046; (1900) 6,991.

CIRCUIT, n. *sér-kit* [F. *circuit*—from L. *circu'itus*, a going round in a circle—from L. *circum*, round; *itum*, to go]: the act of moving or passing round; the space inclosed by a circle; a ring; the journey of British judges in holding courts in different parts of a country; the tract of country so visited. England and Wales, with the exception of the county of Middlesex, are divided for judicial purposes, into seven circuits, which the judges of the high court of justice visit four times a year in pairs for the purpose of adjudging civil and criminal causes. The number of circuits was reduced from eight to seven by authority of the judicature act, 1875. They are—the Northern, North-eastern, Midland, South-eastern, Oxford, Western, and North and South Wales. Trials by jury of issues of fact within London and Middlesex are held at what are called the London and Middlesex sittings. Criminal charges within that and surrounding districts are disposed of at sessions held monthly at the central criminal court. 'These judges of assize came into use in the room of the ancient justices of eyre, *justiciarii in itinere*, who were regularly established, if not first appointed, by the parliament of Northampton, A.D. 1176, in the twenty-second year of Henry II., with a delegated power from the king's great court, or *aula regia*, being looked upon as members thereof.'—Stephen's *Com.*, iii, 415. See ASSIZE and NISI PRIUS.—**IRELAND** is divided into the Northeast, the Northwest, the

CIRCUIT COURT—CIRCULAR NOTES.

Home, the Leinster, Connaught, and Munster circuits. For the Scottish circuits, see JUSTICIARY COURT. CIRCUIT, v. to move in a circle; to go round. CIRCU'ITOUS, a. -*kū'i-tūs*, going round in a circle; not straight or direct. CIRCU'ITOUSLY, ad. -*lī*. To MAKE A CIRCUIT, to go round.

CIRCUIT COURT: next in rank to the United States supreme court. There are nine circuits, each consisting of several states, and each is allotted to one of the nine justices of the supreme court, who must attend at least one term of court in each district of his circuit every two years. A special circuit judge also is appointed and resident in each circuit. Courts are held by either of these, or by the two together, or by a district judge alone or sitting with either of them. Courts may be held at the same time in different districts of the same circuit. These courts have original jurisdiction, concurrently with those of the states, in civil suits in law or equity for more than \$500 between citizens of different states, or where an alien is a party or the United States plaintiff, as well as in revenue cases and some in bankruptcy, and in some criminal cases concerning persons denied citizenship under state laws, or offenses against the United States. Their appellate jurisdiction extends to admiralty and maritime cases, to civil actions referred from the dist. courts, to patent cases, and some others. Several states have circuit courts of their own.

CIRCULAR, a. *sér'kū-lér* [L. *cir'cūlus*, a circle (see CIRCLE): pertaining to a circle, or in the form of a circle; round; ending in itself; addressed to a number or circle of persons: N. a written or printed letter or note sent to a number or circle of persons. CIR'CULARLY, ad. -*lī*, in a circular manner; ending in itself. CIRCULARITY, n. *sér'kū-lär'i-tī*, a circular form or character. CIR'CULATE, v. -*lāt* [L. *circulātus*, spread or gathered in a circle]: to spread or move in a circle; to spread; to pass from one place or person to another; to be diffused: N. a recurring or repeating decimal or part of a decimal. CIR'CULATING, imp.: ADJ. moving or passing round; repeating; diffusing; current, or that constitutes currency. CIR'CULATED, pp. CIR'CULATOR, n. one who. CIR'CULA'TION, n. -*lā'shūn*, the act of moving round; a series repeated in the same order; the act of going and returning; currency of money. CIRCULAR NOTES, series of notes for various amounts, payable on demand, issued by a banker for the convenience of travellers in other countries, which may be cashed at many places as money is required. — SYN. of 'circulate. v.': to propagate; spread; disseminate; diffuse.

CIRCULAR NOTES: bank-notes specially adapted for the use of travellers in foreign countries; and being, in fact, bills personal to the bearer, they are believed to be more safe as travelling money than ordinary notes or coin. C. N. are furnished by the chief banking-houses. Those who wish to obtain them determine beforehand what sum of money they will require on their journey, and that they pay to the banker, who, in exchange, gives C. N. to the amount, the series of notes being of varying values. With these notes is given a 'letter of indication.' This letter

CIRCULAR NUMBERS—CIRCULATING LIBRARY.

is addressed to foreign bankers, requesting them to pay the notes presented by the bearer, whom they name, and to aid him in any way in their power. By way of verification, the bearer appends his signature, and the letter is complete. On the back of the letter there is a long list of foreign bankers, extending all over Europe, any of whom will cash one or more of the C. N. on being presented and indorsed by the bearer; the indorsement being of course compared with the signature on the letter of indication, which is at the same time exhibited by the traveller. In paying these notes, the money of the country is given, according to the course of exchange, and free of any charge for commission. For security in case of theft or loss the letter and the notes should not be carried together. These C. N. are doubtless a safe and convenient species of money, exchangeable in almost every town visited; and if any remain over on coming home, they will be taken back at their value by the banker who issued them. There are, however, certain drawbacks connected with these notes. In many instances, there is a difficulty in finding the banker named; for foreign bankers generally occupy obscure apartments several stories high, and often in dingy out-of-the-way alleys. To discover them, a commissionaire may be necessary. Then, in some instances, it happens that the banker jealously scrutinizes the bearer, asks to see his passport, and takes a note of the hotel at which he lodges; all which proper precautions against robbery are disagreeable to some persons. Further, the C. N. are ordinarily of a thick stiff paper, which does not well fit into a purse or pocket-book. On these accounts, the careful class of British tourists who expect to keep to the main thoroughfares of France, Germany, and Belgium, often prefer English bank-notes or gold coin. See CREDIT, LETTERS OF.

CIR'CULAR NUM'BERS: numbers whose powers end on the same figure as they do themselves; such are numbers ending in 0, 1, 5, 6.

CIRCULAR PARTS: name given to a rule in spherical trigonometry, invented by Lord Napier.

CIR'CULATING DEC'IMALS : see DECIMALS.

CIRCULATING LIBRARY: collection of books lent out on hire—circulated from hand to hand. The plan of lending books on hire is not new. Chevillier, in his *Originis de l'Imprimerie de Paris* (4to, 1694), mentions that, in 1342, a century before the invention of printing, a law was framed in Paris to compel stationers to keep books to be lent on hire, for the special benefit of poor students and others: see E. S. Merryweather's entertaining work, *Bibliomania in the Middle Ages* (London, 1849); which mentions such libraries in the middle ages at Paris, Toulouse, Vienna, and other places. This writer, quoting from Chevillier, gives a list of books so lent out, with the prices for reading them. The books all are of a theological or classical kind. Among them is the Bible, the perusal of which is set down at 10 sous. ‘This rate of charge,’ it is added, ‘was also fixed by the university, and the students borrowing these books were privileged to transcribe them, if they chose; if

CIRCULATING LIBRARY.

any of them proved imperfect or faulty they were denounced by the university, and a fine was imposed upon the bookseller who had lent out the volume.'

By whom the modern C. L. was projected, there is no record. All that can be given are a few facts on the subject. It is known that Allan Ramsay, author of *The Gentle Shepherd*, a bookseller in Edinburgh, established a C. L. in that city about 1725. Fond of dramatic literature, Ramsay appears to have incurred some local obloquy by lending out plays; and his wish to introduce a taste for the drama into Edinburgh may accordingly have suggested the notion of a circulating library. Be this as it may, the library which he began was continued through various hands for above a hundred years. At Ramsay's death, 1758, his library was sold to a Mr. Yair, whose widow carried it on till 1780, when it was bought by Mr. James Sibbald, an ingenious inquirer into Scottish literary antiquities. Sibbald lived some years as a literary man in London, during which period, beginning with 1793, the C. L. was carried on, subject to an agreement, by a Mr. Laurie. Sibbald afterward resumed the direction of the library, which he considerably extended. At his death, 1803, his brother attempted to carry it on; but not being successful in his management, he disposed of it in 1806 to Alexander MacKay, who by the acquisition of various other libraries, greatly enlarged the collection, under the name of the Edinburgh C. L. He retired 1831, when this extensive collection of books was broken up and sold by auction.

There are several circulating libraries in London, claiming to be of old date, but probably not so early as 1725. In a late reprint of an old advertisement, are 'Proposals for erecting a Public Circulating Library in London,' under date 1742, June 12. This library was to be established in some convenient place at or near the Royal Exchange; and the subscription was to be a guinea per annum. Two of the present circulating libraries are believed to be descended from this primitive stock. So numerous had circulating libraries become in the early years of the present century, that they absorbed whole editions of novels and romances prepared for the purpose by a London publishing establishment, designated the Minerva Press. The issue of cheap books and periodicals about 1832 (see BOOK-TRADE) seriously damaged the C. L. system. The vast increase of the reading public in recent times, and the continually augmenting number of new and popular works of a respectable class, have restored prosperity to circulating libraries, especially in London, where some of them are on a surprisingly gigantic scale. To one library alone, as many as 100,000 new books are said to be added annually, and of kinds very different from those of the old Minerva Press school. For an annual subscription—usually of a guinea—a number of new books may at all times be procured, and kept for a specified period. Books no longer in demand are sold at reduced prices.

For the circulation of books among the members of private associations, see BOOK-CLUB; and for the circulation of books in rural districts by means of libraries shifted from place to place, see ITINERATING LIBRARIES.

CIRCULATION.

CIRCULATION, in Anatomy and Physiology: term used to designate the course of the blood from the heart to the most minute blood vessels (the Capillaries, q.v.), and from these back to the heart.

The subject may be considered under two divisions: I. Anatomy of the organs of circulation. II. Physiology of the circulation.

I. *Anatomy of the Organs of Circulation.*—The organs of C. consist of the heart, arteries, veins, and capillaries. The course of the blood through these organs will be best elucidated by the aid of a diagram, equally applicable for all other mammals as well as for man, and for birds. The

shaded part of fig. 1 represents structures filled with impure or venous blood, while the unshaded portion represents structures in which pure, oxygenated, arterial blood occurs. In this diagram we observe a dotted circle, representing a closed bag or sac, termed the pericardium, and inclosing the four cavities *c*, *v*, *c'*, *v'*, of which the heart is composed. Two of these cavities, *c* and *c'*, are for the purpose of receiving the blood as it flows into the heart, and are termed the *auricles*; while the two cavities *v* and *v'* are for the purpose of propelling the blood through the lungs and general system respectively, and are termed the *ventricles*; The vessels that transport blood into the auricles are termed *veins*, and the vessels through which the blood is driven onward from the ventricles are known as *arteries* (q.v.). The diagram further shows that what we commonly term the heart, is in reality *two distinct hearts* in apposition with each other—one, shaded in the figure, which is called the right, or venous, or pulmonary

Fig. 1.—Mode of Circulation in man and other mammals, and in birds: *h*, heart; *v*, right ventricle; *v'*, left ventricle; *c*, right auricle; *c'*, left auricle; *a*, aorta; *d*, vena cava; *e*, greater circulation; *b*, smaller circulation; *f*, pulmonary artery; *g*, pulmonary veins.

heart; and the other, unshaded, which is called the left, or arterial, or systemic heart—the last name having been given to it because the blood is sent from it to the general system; as the right heart is termed pulmonary from its sending blood to the lungs. We will now trace the course of the blood as indicated by the arrows in this diagram, commencing with the right auricle, *c*. The right auricle contracting upon the venous or impure blood with which we suppose it filled, drives its contents onward into the right ventricle *v*, through an opening between these two cavities, called the right auriculo-ventricular opening, which is guarded by a valve, named the tricuspid—from its being composed of three pointed membranous expansions—which almost entirely prevents the regurgitation or reflux of the blood from the ventricle into the auricle. The ventricle *v* being now

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filled, contracts, and as the blood cannot return into the auricle, it is driven along the shaded vessel, the dividing branches of which are indicated by *f*. This vessel is known as the pulmonary artery, and conveys the blood to the lungs. At its commencement, it is guarded by valves, termed, from their shape, the semi-lunar pulmonary valves, which entirely prevent the blood which has once been propelled into the pulmonary artery from re-entering the ventricle. The pulmonary artery gradually divides into smaller and smaller branches, which ultimately merge into capillaries. In these capillaries which are freely distributed over the interior of all the air-cells (of which the lung is mainly composed), the venous blood is brought in contact with atmospheric air, gives off its carbonic acid gas (which is its principal impurity), and absorbs oxygen by which processes it is converted into pure or arterial blood. The capillaries, *b*, in which the blood is arterialized, gradually unite to form minute veins which, again, join to form larger vessels, until finally the blood is collected into a small number of vessels known as pulmonary veins, which pour their contents into the left auricle. Only one such vessel *g*, is shown in the figure, because the main object of this diagrammatic scheme is to illustrate the mode and general direction in which the blood circulates, not to indicate the special vessels through which it flows in different parts of the body; the actual number of the pulmonary veins is four—viz., two from each lung. The blood, now fitted for the various purposes of nutrition, enters the left auricle, *c*, which by its contraction propels it into the left ventricle, *v'*, through the left auriculo-ventricular opening. This opening, like the corresponding one in the right heart, is guarded by a valve which, from its form, is termed the mitral valve, and which entirely prevents the reflux of the blood. The left ventricle, *v'*, contracts and drives its contents into the large artery, *a*, which represents the aorta—the great trunk which, by means of its various branches (none of which are indicated in the diagram), supplies every portion of the body, from the crown of the head to the soles of the feet, with pure arterial blood. From the aorta and its various subdividing branches the blood passes into the capillaries, *e*, which occur in every part of the system; in these capillaries it undergoes important changes, which may be considered as almost exactly the reverse of those which occur in the pulmonary capillaries; it parts with its oxygen, becomes charged with carbonic acid, and, as it leaves the capillaries, and enters the minute veins formed by their union, presents all the characters of venous blood. The veins gradually unite till they form two large trunks, termed the superior and inferior *venae cavae*, which pour their contents into the right auricle—the point from which we started. Only one of these great veins, *d*, is indicated in the diagram. Thus there is a complete double C.—a less C. effected by the blood in its passage from the right to the left heart through the lungs; and a greater C. effected by the blood in its passage from the left heart through the system generally to the right heart.

From the above simple ideal scheme, we proceed to the

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consideration of the more complicated arrangements by which the C. is actually effected in man and the higher animals.

The heart is situated in very nearly the centre of the cavity of the chest, or *thorax*, as it is termed in anatomy, between the lungs, behind the breast-bone, or *sternum*, in front of the vertebral column, and above the diaphragm, on which it obliquely rests. Its form is somewhat conical, the lower end tapering almost to a point, and directed rather forward and to the left. This lower portion alone is movable, and, at each contraction of the heart, it is tilted forward, and strikes against the walls of the chest between, in man, the fifth and sixth ribs, or a little below the left nipple. All the large vessels connected with the heart—the *venae cavae*, the pulmonary artery, and the aorta—arise from its base (see fig. 2), and serve, from their attachment to the

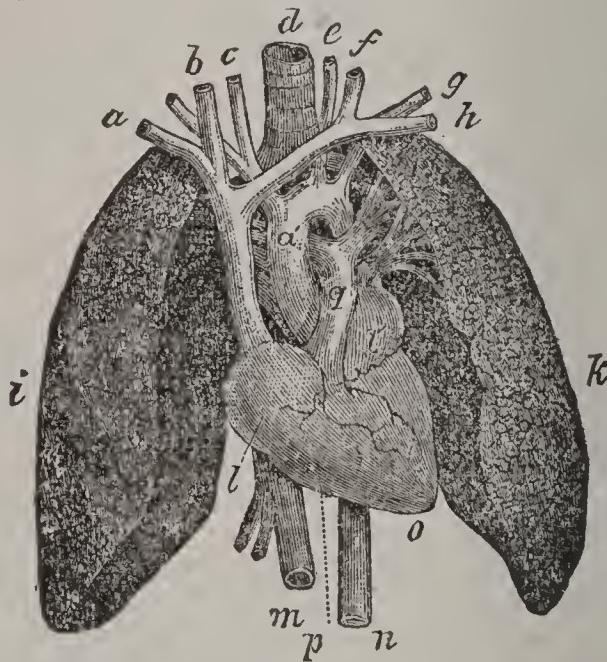


Fig. 2.—The Lungs, Heart, and principal Blood-vessels in Man:

a, h, veins from the right and left arms; b, f, right and left jugular veins, returning the blood from the head and neck—these four veins unite to form a single trunk, the *vena cava superior*, which enters the right auricle, l; c, e, the right and left carotid arteries, the latter rising directly from the arch of the aorta, a', the former from a short trunk called the *arteria innominata*; g, the left subclavian artery, rising directly from the aorta, while the right subclavian springs from the *arteria innominata*; d, the trachea or windpipe; i, k the right and left lungs; l, l', the right and left auricles; p, the right ventricle, o, the apex of left ventricle; m, the inferior or ascending *vena cava*; n, the descending aorta, emerging from behind the heart; q, the pulmonary artery.

neighboring parts, to keep that portion of it fixed. Indeed, these vessels may be regarded as suspending the heart in the cavity, which is lined by a smooth serous membrane which, near the top, is reflected downward over the roots of the great vessels, and covers the whole of the outer surface of the heart. These two smooth serous surfaces—one lining the cavity, the other investing the heart—are kept moist by a fluid which they secrete, and by this arrangement friction may be regarded as reduced to its minimum. The cavity

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or sac in which the heart lies is called the pericardium. Like all serous membranes, it is a closed sac, and, as it may not be easy for the non-professional reader to understand the relative position of the heart, which is at the same time surrounded by and external to this membrane, we may observe that the head in an old-fashioned double night-cap—which is a closed bag—is in much the same position as the heart in the pericardium; it is inside the night-cap, but not in the cavity which intervenes between its two layers.

The substance of the heart is essentially muscular. The fibres run in different directions, longitudinally and transversely, but most of them obliquely; many pass over the apex from one side of the heart to the other; and all are so involved as to render it very difficult to unravel them. In consequence of this arrangement the fibres, by their contraction, seem simultaneously to diminish each cavity in all directions, and thus serve most efficiently to drive the blood onward. The size of the heart has been estimated as about that of the closed fist of the same individual. Its weight, as compared with that of the body, was deter-

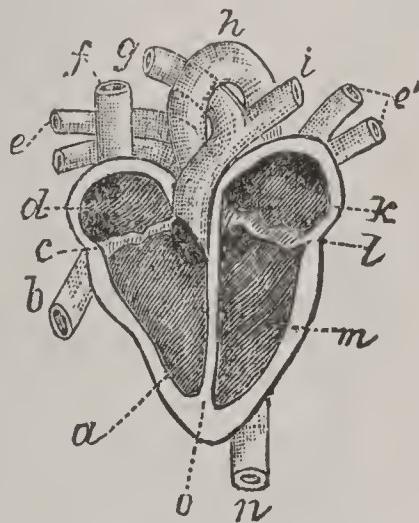


Fig. 3.—Theoretical Section of the human Heart:

f, b, the two *venae cavae*, opening into *d*, the right auricle; *c*, the tricuspid valve; *a*, the right ventricle, from which proceeds the pulmonary artery, dividing into branches *g* and *i*, going to the right and left lung respectively; *e, e'*, the pulmonary veins (two from either lung), entering into the left auricle, *k*; *l*, the mitral valve; *m*, the left ventricle, from which proceeds the aorta, whose arch is indicated by *h*, and the descending portion by *n*, none of its branches being indicated in this figure; *o*, the partition, or *septum*, between the right and left hearts.

mined by Dr. Clendinning to be 1:160 in the male, and 1:150 in the female. The same physician carefully examined nearly 400 hearts of persons of both sexes, and determined the average weight at about nine oz. avoirdupois, while Dr. John Reid found the average weight of the male heart to be a little more than 11 oz., and that of the female heart to be a little above 9 oz.

In our ideal sketch of the organs of C. (fig. 1), we have indicated the different cavities into which the heart is divided. In fig. 3 there is represented a section of the human heart, which is sufficiently like the reality to give the

PLATE 4.

Cippus
Circulatio



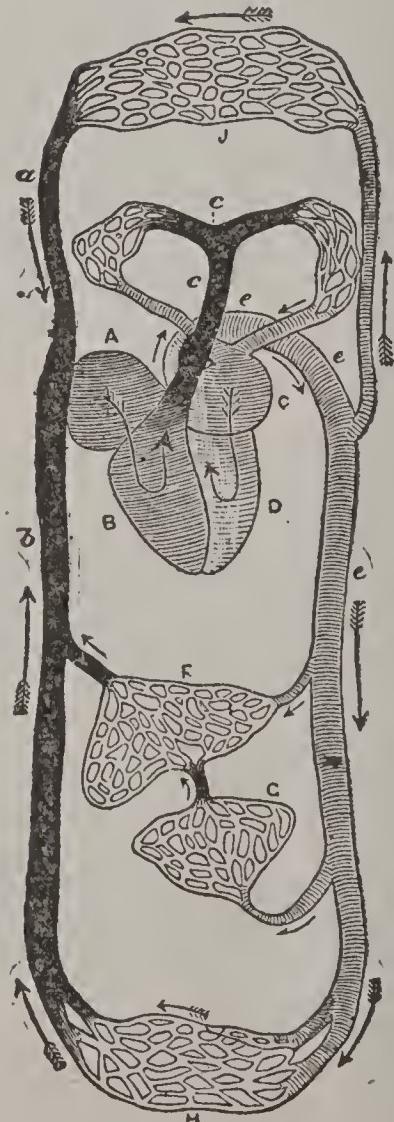
Sepulchral Cippus.



Cippus.



Circinate
(Fern).



Circulation.—Diagram of Circulating System.

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reader a fair idea of the position of its various parts. The two theoretical hearts, which were nearly in contact in fig. 1, are here fused into a single organ, but the division of the two sides is still as complete, so far as the functions of the heart are concerned, as in the ideal scheme. We see a strong vertical partition separating the entire heart into two halves, which are very similar to each other. In the accompanying figure (fig. 4) we have a representation of all these valves—the auricles having been removed so as to give a distinct view of the upper surface of the ventricles. The tricuspid and mitral valves, which are entirely closed—the two ventricles contracting simultaneously—are represented by 1 and 3 respectively; while the pulmonary and aortic semi-lunar valves, which, when closed, always present a concave surface toward the lungs, are indicated by 4 and 5.

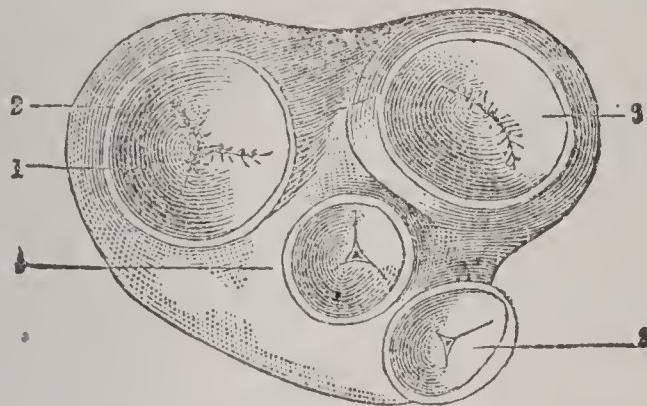


Fig. 4.—Valves of the Heart and Arteries:

Upper surface of the Heart, the Auricles having been removed. In this figure the heart is turned in such a position that the anterior surface lies lowermost; hence the apparent discrepancy of the *right* auriculo-ventricular orifice lying on the *left* side of the diagram.

- 1, Right auriculo-ventricular orifice, obliterated by the tricuspid valve; 2, fibrous ring surrounding this orifice; 3, left auriculo-ventricular orifice, surrounded by a ring, and closed by the mitral valve; 4, orifice leading into the aorta from the left ventricle, closed by the semi-lunar valves; 5, orifice leading into the pulmonary artery from the right ventricle, also provided with three semi-lunar valves.

The walls of the ventricles are much thicker than those of the auricles, and those of the left ventricle are about four times as thick as those of the right; the amount of muscular tissue being, in all these cases, proportional to the work to be done. All details regarding the anatomy of the heart, except such as bear directly upon the C., would be out of place in this article; therefore notice is omitted of many structures which present themselves on opening its various cavities. It is to be added, however, that the heart receives the arterial blood necessary for its own nutrition from the coronary arteries, two trunks which are given off by the aorta immediately above the semi-lunar valves; and that this blood having discharged its function, is carried back to the right auricle by the coronary veins; this blood obviously having the shortest possible systemic circulation.

Since all the arterial blood leaves the heart through the aortic opening, in tracing its course to the different parts of

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the system, we obviously have only to follow the aorta to its final branches. Referring to the article AORTA, where the principal branches of that great organ are indicated, it is sufficient, without further anatomical details, to say that the final ramifications of the arteries distribute the arterial blood to the Capillaries (q.v.), which pervade every part of the body.

The *veins*, like the arteries, are found in nearly every tissue; they commence by minute plexuses (an anatomical term for a network-like arrangement), which communicate with the capillaries. Branches from these plexuses uniting together, form small venous trunks, which, by joining, increase in size as they pass on toward the heart. If we except certain venous structures (called *sinuses*) occurring in the interior of the skull, we may divide the veins into two sets—the *superficial* or *cutaneous*, and the *deep* veins.

The deep veins accompany the arteries, and are usually inclosed in the same sheath of cellular tissue with them. In the case of the smaller arteries, they generally exist in pairs, one on each side the artery, and are called *venæ comites*, while the larger arteries have usually only one accompanying vein.

The superficial veins occur immediately beneath the integument; they not only return the blood from the skin and adjacent structures, but communicate with the deep veins.

All the veins finally unite into two large trunks, termed the *superior* and *inferior vena cava*, which open into the right auricle of the heart; the superior vena cava being formed by the union of the veins which return the blood from the head and neck (the jugulars) with those which convey it from the arms (the subclavians), as shown in Fig. 2; while the inferior vena cava (also shown in the same figure) receives the blood from the lower extremities, the trunk, and the abdominal and pelvic viscera.

For the structure of the walls of this part of the circulating system, see VEIN. There is only one point that imperatively requires notice here—viz., that while the arterial system presents no valves, except at the points where the two great trunks leave the heart, the veins contain a great number of valves, which are formed by a doubling of their lining membrane, and resemble pocket-like folds or pouches, which allow the blood free passage toward the heart, but prevent its reflux.

There is one part of the venous C. which, from its great importance, requires special notice—viz., that of the venous blood of the spleen, pancreas, stomach, and intestinal canal. The blood supplied to these organs by the celiac axis and the two mesenteric arteries is not returned directly to the vena cava, and thence to the heart, as occurs in other parts of the system. The veins of these organs unite together into one large vessel, called the *vena portæ*, which, entering the liver, branches out again like an artery, and finally subdivides into a capillary network that permeates the whole of its mass. It is from the venous blood, as it traverses these capillaries, that the bile is secreted. This portal blood, together with the blood of the hepatic artery, after it has

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become venous, is finally carried off by the hepatic veins (usually three in number), which open into the inferior vena cava.* Thus the blood which flows through the portal vein passes through two sets of capillaries, between the period of its leaving the aorta and entering the vena cava.

Our knowledge of the true course of the C.—viz., that the blood propelled from the left side of the heart, after traversing the arteries, returned by the veins to the right side of the heart; and the blood of the right side, passing through the pulmonary artery, traversed the lungs, and returned by the pulmonary veins to the left auricle—is of comparatively recent date. Harvey's celebrated work, *Exercitatio de Motu Cordis et Sanguinis*, was not published till 1628, although there is reason to believe that it was written nine or ten years previously. Before the appearance of this celebrated work, which marks an epoch in physiological science, the views on this subject were utterly vague. (See Dr. Willis's *Life of Harvey*, prefixed to his translation of Harvey's Works, for the Sydenham Soc.) In one point, Harvey's proof of the course taken by the blood was defective; the microscope had not then revealed the existence of the capillaries, and he was consequently altogether at fault as to the mode by which the blood passed from the arteries to the veins. Malpighi, who discovered the corpuscles by which the motion of the blood in the capillaries can be traced, was born in the very year (1628) in which Harvey's work was published.

The double C. which we have described, is the course performed by the blood from the time of birth during the whole period of life. The C. of the blood, however, begins before birth—indeed, at a very early period of intra-uterine or foetal existence; and the fact that before birth the lungs do not act as organs of respiration, induces a very important modification in the course of the blood in foetal life, for which, see FœTUS.

Turning from the C. in man, we may notice some of the leading peculiarities of the C. in other animals. In the warm-blooded animals—mammals and birds—the course of the blood is essentially the same as in man, for in all these animals the heart, like the adult human heart, possesses four distinct cavities. In form, however, it presents certain peculiarities in some of the mammalia. It is generally more rounded and less elongated than in man. In the cetacea, it is very broad and flat; and in at least one genus, the dugong, the right and left ventricles are separated by a deep fissure. In some herbivorous mammals, as in the ox, sheep, goat, etc., a cruciform ossification, called the bone of the heart, is found in the septum between the ventricles. In the ornithorhynchus, or duck-billed platypus, the heart, in some respects, resembles that of birds. Certain varieties are found also in the distribution of the blood-vessels. Thus, while in man the subclavian and carotid arteries arise on the right

* In fishes, not only the blood of the intestines, but that of the posterior part of the body, enters this portal system, which is distributed in this class of animals both to the kidneys and to the liver.

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side from a short common trunk given off by the aorta, and on the left side arise directly from the aorta, we find several varieties of this arrangement in the mammalia. In the horse and the ruminants, the aorta divides at once at its origin into an anterior trunk, which gives off the carotid and subclavian arteries of both sides, and a posterior trunk for the thoracic

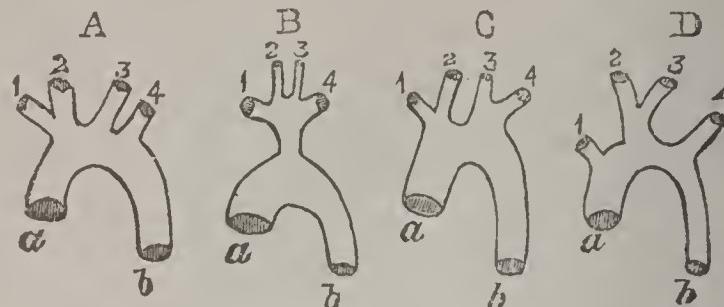


Fig. 5.—Diagram of certain varieties in the Origin of the Main Trunks from the Arch of the Aorta :

A, Man; B, the Ruminants; C, Dolphin and Bats; D, the Elephant. 1, the right subclavian; 2, right carotid; 3, left carotid; 4, left subclavian; *a*, ascending aorta; *b*, descending aorta.

and abdominal aorta. In the dolphin, and in some—if not all—of the bats, two short trunks (*arteriae innominate*) arise, and give off each a carotid and subclavian on either side. In the elephant, both carotids are given off from a single common trunk, situated midway between the two subclavians. All these, and other varieties which might be noticed, are occasionally found in man; and it may be laid down as a general rule, that when any abnormal arterial distribution is detected in the human subject, it represents the normal type in some lower mammal.

A very remarkable peculiarity in the distribution of the vascular system (both arteries and veins) appears in the cetacea and other diving animals, in which the respiration, and consequently the arterialization of the blood, is temporarily stopped. Various arteries of the trunk here assume a ramified and convoluted form, so as to constitute reservoirs capable of holding a large quantity of pure blood; while the venous trunks show similar dilatations, capable of receiving and retaining for a considerable time the impure blood which has circulated through the system, and of thus preventing the right heart from being overcharged with venous blood during the temporary suspension of respiration. By means of these arterial reservoirs, the cetacea can support life under water for a quarter of an hour, or even longer.

Another peculiarity is that occasionally a large artery will divide into a great number of smaller vessels which again reunite to form a single trunk. An arrangement of this kind is known as a *rete mirabile*, and a good example of it occurs within the skull in long-necked grazing animals, the object being to check too strong a current of blood to the brain.

In birds, the heart is usually of a very large size, as compared with the bulk of the body. The trunk of the aorta is extremely short, and divides into three main branches, the central one forming the descending aorta, while the two

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lateral ones give off the carotid and subclavian arteries on either side. The branches of the latter give an abundant supply of blood to the powerful thoracic muscles by which the wings are moved.

In the class of reptiles, there is not a complete double C., a mixture of arterial and venous blood being sent both to the lungs and to the general system. In Fig. 6, the general nature of the C. in this class is typically represented. The heart consists of two auricles and one ventricle. The impure blood which has circulated through the system is conveyed by the vena cava into the right auricle, whence it passes into the common ventricle. At the same time, blood which has been aerated in the lungs is poured into it from the left auricle; hence the ventricle contains an admixture of venous and arterial blood. As both a pulmonary artery and an aorta are given off by the ventricle, the latter by its contractions simultaneously drives one portion of its contents to the lungs, and another to the general system. In this way, a semi oxygenated blood is transmitted to the various parts of the body, the only pure blood being that which is contained in the left auricle, and in the veins opening into it.

Although the above may be regarded as the *general* type of the circulating apparatus in reptiles, yet there are many modifications of it, which connect it on the one hand (in the case of the *Perennibranchiate amphibia*, such as the axolotl, proteus, etc.) with that of fishes, and on the other hand (when there is a more or less perfect separation of the ventricular cavity, as in the crocodiles) with that of birds and mammals.

In the class of fishes, the circulating apparatus is far simpler than in reptiles. The heart has only two cavities, an auricle and a ventricle, and is traversed solely by venous blood; hence it is analogous to the right side of the mammalian heart. Venous blood is brought by veins which correspond with our *venae cavae*, from all parts of the system, and enters the auricle (see Fig. 7); from the auricle, the blood passes into the ventricle, which is of great muscular strength; and the ventricle propels its contents through a vessel which corresponds with our pulmonary artery, and which dividing on either side into four or five branches, goes to the gills, in the capillaries of which it becomes oxygenated, by means of the air that is diffused through the water. From the filaments and fringe like structures of the gills, it is at length collected into a large trunk, commonly called the dorsal vessel, but analogous to the

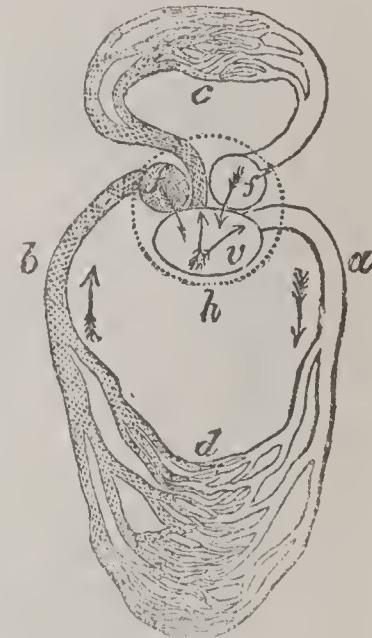


Fig. 6.—Circulation in Reptiles:

h, heart, inclosed in pericardium; *f, f'*, right and left auricles; *v*, single ventricle; *a*, aorta; *b*, vena cava; *c*, smaller circulation; *d*, greater circulation.

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aorta of mammals and birds, inasmuch as it supplies the whole body with arterialized blood. After passing through the systemic capillaries, the blood returns in a venous condition to the heart, and the above process is repeated. Although the heart is simpler than in reptiles, the C. is in one sense of a higher character, so far as pure arterial (not mixed) blood is here conveyed to all parts of the system; hence, probably, the far greater muscular energy of fishes may be explained.

Turning to the C. in the invertebrate animals, in the mol-

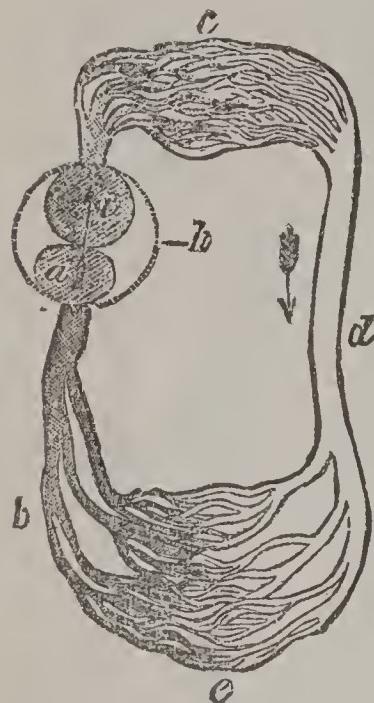


Fig. 7.—Circulation in Fishes:

h, heart, inclosed in pericardium; *a*, the auricle; *v*, the ventricle; *c*, the capillary circulation in the gills; *d*, the dorsal artery; *e*, the systemic capillaries; *b*, the veins.

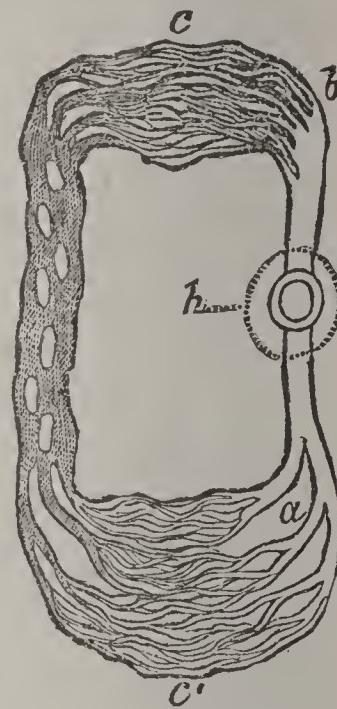


Fig. 8.—Circulation in the Crustaceans:

h, the heart and pericardium; *a*, the arteries; *c'*, the systemic capillaries; *c*, the branchial or respiratory capillaries; *b*, the branchio-cardiac vessels.

In *Crustacea*, we find hearts of varying complexity,* usually with one or two auricles, and one ventricle; but in all cases, the auricle or auricles receive aerated blood from the respiratory organs, and pass it to the strongly muscular ventricle, which propels it over the body. The heart is therefore a *systemic* heart. There seem to be no capillaries in these animals, excepting in the respiratory organs; the blood leaving the open ends of the arteries, passes into the inter-

* In some of the ascidians and in salpa, the following remarkable phenomenon occurs: The heart, which is extremely simple, and of course without valves, at definite intervals (of about 20 minutes) reverses the direction of its current. Before the heart changes the direction of its contractions, it remains still for a short time, and the blood-currents in the body are thus slackened in their course before they receive an impulse in the opposite direction. The vessels entering and leaving the heart thus act alternately as an aorta and as a vena cava.

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stices (*lacunae*) of the parenchyma of the body, from whence it is taken up by the open mouths of the venous radicles; hence this kind of C. is called lacunary.

In the crustacea, the form of the heart and the number of its orifices presents several modifications; the following is, however, the *typical* mode of C. of these animals. The heart, here a single cavity, is sometimes round, and sometimes long and tubular, and is the point of departure of the arterial system, which consists of trunks emerging in various directions. The blood returning from the arteries does not enter into distinct veins, but into irregular excavations in the tissues, which are termed venous sinuses; from these venous sinuses it passes to the gills, whence it is returned to the heart in an aërated state by the branchio-cardiac canals; so that here, as in the mollusca, the heart is systemic. It is unnecessary to notice the comparatively imperfect C. in insects and animals lower in the scale than those already considered.

II. *Physiology of the Circulation*, including—1. The flow of blood through the heart; 2. The phenomena of the arterial C.; 3. The phenomena of the capillary C.; 4. The phenomena of the venous circulation.

1. Direct observation and experiment clearly show that the muscular contraction of the heart is the principal source of the power by which the blood is propelled in its course. This action of the heart may be observed by opening the chest of a living animal, or better still, of an animal deprived of sensation and motion by poison, and in which artificial respiration is kept up. It is then seen to consist of two motions—first, a contraction or systole of the auricles, and second, a corresponding contraction of the ventricles. The contraction of the auricle immediately precedes that of the ventricle, and the systole of each cavity is directly followed by its diastole or relaxation; there is then a brief period of repose, the heart exhibiting little or no motion. At the moment of the systole of the ventricles, the apex of the heart is tilted forward, causing a pulsation against the ribs that can be felt externally.

The force exerted by the left ventricle has been so very variously estimated, that we must regard this point as still unsettled. The number of contractions of the heart of an adult in a minute is about 70 or 75; it is, however, liable to great variations (see PULSE). The sounds accompanying the heart's action, may be readily heard by applying the ear either directly or through the medium of the stethoscope to the cardiac region (see HEART, SOUNDS OF THE).

2. The arteries exercise a vast influence on the movement of the blood through them, in virtue of two properties which they possess—viz., elasticity and contractility. These two endowments are not equally and uniformly possessed by the whole arterial system—elasticity (the property by which the interrupted or discontinuous force of the heart is made equable and continuous) existing chiefly in the larger trunks; while contractility—which is more required for regulating the flow of blood to particular parts—is most marked in the smaller vessels. The rate of move-

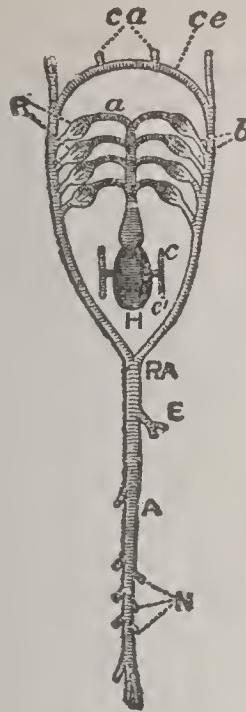
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ment of the blood through the arteries in man can be only roughly calculated from experiments on animals. Volk-mann finds that in the carotids of mammals, the average velocity of the blood-stream is about 12 inches per second; he has likewise ascertained that the velocity is greater in arteries lying near than in those at a distance from the heart, that it is not increased by an augmentation in the number of pulsations, but that it is greatly augmented by an increase in the volume of the blood, and lessened by its diminution.

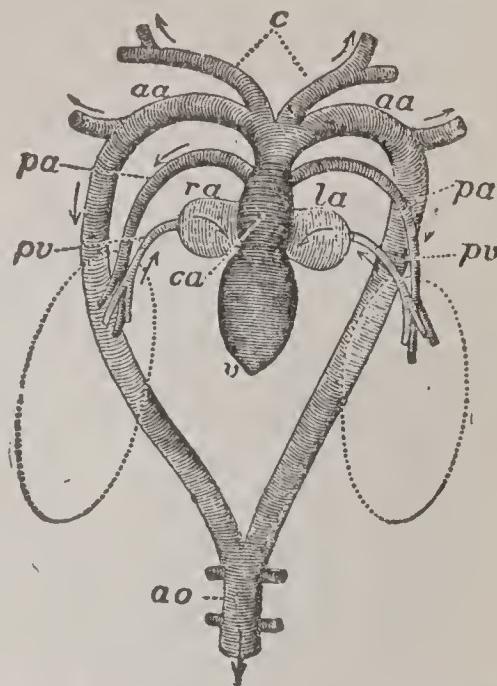
3. It has long been a debated point, whether the capillary C. is influenced by any other agency than the contractility of the heart and arteries. Harvey believed that the action of the heart alone was sufficient to send the blood through the whole circuit, and in recent times his view has been supported by J. Müller and other eminent physiologists. On the other hand, Prof. Draper of New York holds the opposite extreme view, asserting that 'it is now on all hands conceded that the heart discharges a very subsidiary duty.' We believe that Bichat was the first to maintain the opinion that the capillaries are organs of propulsion, and are alone concerned in returning the blood to the heart through the veins. Although Bichat attributed too great power to the capillaries, there cannot be a doubt that the movement of the blood through these vessels is due not solely to the heart; in short, that there is what may be termed a capillary power. The following are a few of the facts proving this: 1. On watching the C. in the web of a frog's foot, it is at first seen to go on with perfect regularity. After a time, however, various changes are observed, which cannot be attributed to the heart, such as alterations in the size of some capillaries, and in the velocities of the currents passing through them, and occasionally even a reversal in the direction of some of the lesser currents. 2. In cold-blooded animals, the movement of the blood in the capillaries continues long after the excision of the heart. 3. Actual processes of secretion not unfrequently continue after death; sweat, for instance, may be exuded from the skin, and other secretions may be formed by their respective glands, which could not take place if the capillary C. had stopped. 4. Cases occasionally occur in which a foetus without a heart is produced, and yet in these cases most of the organs are well developed.

What the nature of this capillary power is, is not clearly known. Professor Draper and others have endeavored to explain it on the principles of capillary attraction. There is no satisfactory evidence that the capillaries possess true contractility, for, although their diameter is subject to great variations, this may be due simply to the elasticity of their walls. If their contractility could be established, the difficulty would be removed.

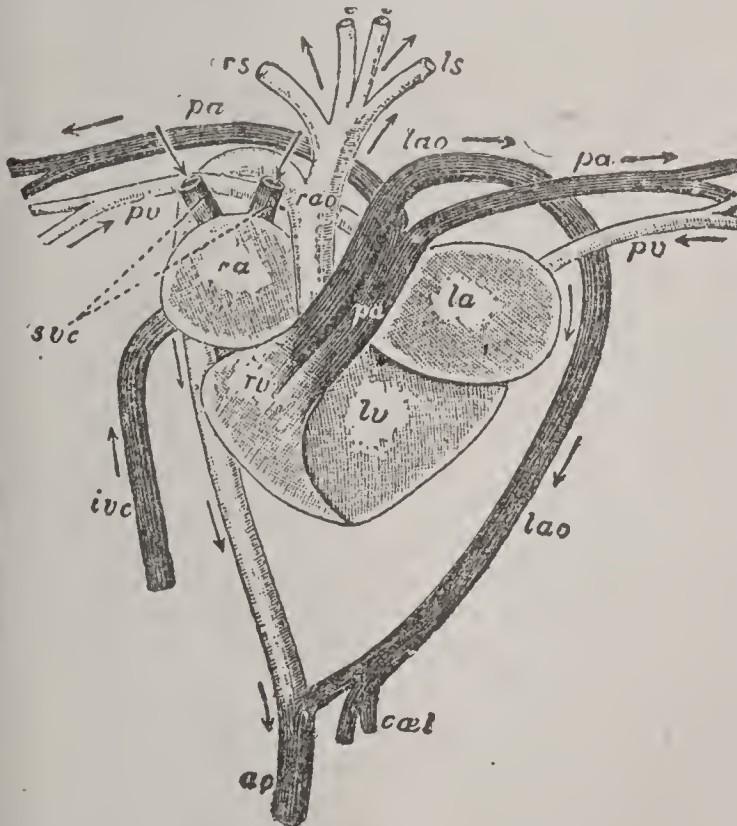
The rate of movement of the blood through the capillaries is about 1·2 inch per minute in the systemic capillaries of the frog. In the warm-blooded animals it is probably more rapid. From Volkmann's observations, the rate in the dog is about 1·8 inch per minute.



Circulation.—Arterial System of Fish: H, Heart; c and c', Anterior and posterior cardinal veins; a, Branchial arteries; R, Capillaries of the branchial vessels; b, Branchial veins; ce, Head circle; ca, Carotids; RA, Root of the aorta; A, Dorsal aorta; E, Artery to viscera (cœliaco-mesenteric); N, Renal arteries.



Circulation.—Arterial System of Amphibian: ra, Right auricle; la, Left auricle; v, Ventricle; ca, Conus arteriosus; c, Carotid arteries; aa, Aortic arches; ao, Dorsal aorta; pa, Pulmonary artery; pv, Pulmonary vein; ra receives venous blood from body; both the pulmonary arteries enter la.



Circulation of a Reptile (Tortoise): ra, Right auricle; la, Left auricle; rv, Right (venous) portion of ventricle; lv, Left (arterial) portion of ventricle; lao, Left (venous) aortic arch; pa, Pulmonary artery; rao, Right (arterial) aortic arch; rs, ls, Branches to fore-limbs; c, c, Carotids; pv, Pulmonary veins; svc, Superior venæ cavæ; ivc, Inferior vena cava; ao, Dorsal aorta; cœl, Cœliac artery to viscera.

CIRCULATION OF SAP—CIRCUMAMBIENT.

4. It is usually estimated that the venous system contains from two to three times as much blood as the arterial. The latter is probably the more correct ratio, and, as the rapidity of blood in the two systems seems to bear an inverse ratio to their respective capacities, the venous blood will move with only one-third of the velocity of arterial blood. We have already noticed the occurrence of valves in the venous circulation. Their object is evidently to prevent the reflux of blood; hence they are of important use in the maintenance of this part of the circulation. They are most abundant where there is much muscular movement. The movement of blood through the veins is undoubtedly due mainly to the *vis a tergo* resulting from the contraction of the heart and arteries. This is much assisted in many parts of the system by the constantly recurring pressure of the adjacent muscles upon their trunks. The movement of inspiration, by causing a comparative vacuum in the chest, has been supposed by some physiologists to assist the flow of venous blood to the heart, and a similar influence has been ascribed to an assumed suction-power of the heart. The contractility of the veins in man is too slight to produce any marked effect on the propulsion of the current. From the investigations of Professor Wharton Jones 'on the rhythmical contractility of the veins of the bat's wing,' we may infer that, in many of the lower animals, it is probably a more efficient power. In connection with this article: see ARTERY: CAPILLARIES: PULSE: VEIN.

CIRCULATION OF SAP in Plants: its ascent from the root to the leaves and bark, and its partial descent after the elaboration which it undergoes in these organs. The sap drawn from the ground by the roots (see OSMOSE) ascends in exogenous plants, which have hitherto been principally the subjects of examination, through the more recent parts of the woody tissue, and especially through the alburnum. The descent of the sap takes place chiefly through the liber or inner bark. It appears certain also that, on its return to the root, only a small portion is excreted, and that the greater part ascends again, readapted to the use of the plant by the excretion which has taken place. Much of the sap which is taken up by the roots is, however, thrown off in perspiration by the bark and leaves. The sap is also laterally diffused through the cellular tissue of plants, and very interesting observations have been made by Schultz and others on peculiar movements of the elaborated or descending sap (*latex*). Many physiologists dislike the term *circulation* applied to sap, as suggesting a closer analogy than really exists to the circulation of the blood in animals. See PLANT: LEAVES: SAP.

CIRCUM, *sér'kūm*, or CIRCU, *sér'kū* [L. *circum*]: a Latin prefix signifying 'around; round about,' etc.

CIRCUMAMBIENT, a. *sér'kūm-ām'bī-ēnt* [L. *circum*, round about; *am'bīens*, or *ambīen'tem*, going round, surrounding]: surrounding; inclosing, or being on all sides, as the air about the earth. CIR'CUMAM'BIENCY, n. *-ēn sī*, the act of surrounding.

CIRCUMAMBULATE—CIRCUMCISE.

CIRCUMAMBULATE, v. *sér'küm-ăm bū-lāt* [L. *circum*, round about; *ambulātus*, walked]: to walk round about. **CIR'CUMAM'BULATING**, imp. the going or walking round instead of going straight to it. **CIR'CUMAM'BULATED**, pp. **CIR'CUMAMBULA'TION**, n. -*lāshūn*.

CIRCUMBENDIBUS, n. *sér'küm-běn'di būs* [*circum*, bend—a coined word with a L termination]: in *familiar language*, a round-about way.

CIRCUMCELLIONES, n. *sér-küm-sěl-lě-ō'nēz* [L.L. *circumcellio*, a wandering about from cell to cell—from L. *circum*, about; *cella*, a cell]: a sect of the Donatists in Africa, 4th c., named from their habit of roving from house to house, plundering. They went about in predatory gangs, chiefly of rustics, pretending to reform public manners and redress grievances. They manumitted slaves without the consent of their masters, forgave debts, etc. In their fanatical zeal for martyrdom they courted death by insulting the Pagans at their festivals, and destroyed themselves in various ways. Later, they took the name of Agonistici.

CIRCUM-CENTRAL, n.: in *geol.*, applied to strata dipping to a common centre; bowl-shaped.

CIRCUMCISE, v. *sér'küm-sīz* [L. *circum*, round about; *cæsus*, cut]: to cut off the foreskin, as a religious rite among the Jews and other Eastern nations; to purify the heart. **CIR'CUMCI'SING**, imp. **CIR'CUMCISED**, pp. -*sīzd*. **CIR'CUMCI'SER**, n. one who. **CIR'CUMCIS'ION**, n. -*sīzh'ūn*, the act or ceremony of cutting off the foreskin (*præputium*), a rite widely diffused among ancient and modern nations. The prevalent idea among Christians was (and perhaps still is), that the rite originated with Abraham, who (as recorded in Gen. xvii. 9–14) was commanded by God to circumcise himself and his whole household, and to transmit the custom to his descendants. But, as Jahn (*Biblische Archäologie*, Vienna, 1797–1800) acutely observes, this is inconsistent with the very terms in which the command is expressed, these terms presupposing a knowledge of the rite on the part of Abraham. That it existed previously to the time of the patriarch, however, seems to be indisputable. The researches of modern scholars prove that the Egyptians, for instance, were in the habit of circumcising long before Abraham was born. Rawlinson, in a note to his version of Herodotus, remarks that ‘circumcision was already common in Egypt at least as early as the fourth dynasty of kings, and probably earlier, long before the birth of Abraham, or b.c. 1996.’ The testimony borne by the monuments of Upper and Lower Egypt (consult Sir Gardiner Wilkinson’s *Manners and Customs of the Ancient Egyptians*) is to the same effect, and apparently conclusive. Another argument which has been adduced against its Abrahamic origin is the fact of its being so extensively practiced. At the present day, it may be traced almost in an unbroken line from China to the Cape of Good Hope. It is also a usage in many of the South Sea Islands, and the followers of Columbus were astonished to find it existing in the W. Indies, and in Mexico. Recently, too, it has been ascer-

CIRCUM-DENUDATION—CIRCUMFLEX.

tained to have been long practiced by several tribes in S. America. Such being the case, many scholars hold it impossible to suppose that the origin of so universal a rite can be traced to a single Semitic nation, more especially when that nation was peculiarly averse to intercourse with other nations, and in other respects exercised no overt influence on their customs. Whether, as Jahn supposes, Abraham obtained his knowledge of C. from the Egyptians, is not known. It appears, however, that the Canaanites among whom he came to reside were not circumcised, for we read of the Prince of Shechem and his people undergoing the operation, that the former might obtain the hand of Dinah, daughter of Jacob; and the institution of it in the family of Abraham was probably sufficient to mark off that family from the surrounding tribes. In the case of Abraham and his descendants, the rite acquired a religious significance. It was ordained to be the token or seal of the everlasting covenant between God and his people. Such is the view of the apostle Paul, who looked upon the C. of the foreskin as symbolical of the C. of the heart; and who considered that it, with all that was merely Judaistic and material, was abrogated by the more spiritual teaching of Christ.

The time for C. among the Jews is the eighth day after the birth of the child; among the Arabians the 13th year, in remembrance, it is said, of their ancestor Ishmael: among the Kafirs, at a still later period, marking, in fact, the transition from youth to manhood; and, indeed, each nation seems to have selected the time most agreeable to its own notions of what is prudent or becoming. The Abyssinians are the only people professing Christianity among whom C. is practiced. The C. of females, or what is equivalent to such, is not unknown among various African nations. For fuller information in regard to C., consult Sonnini's *Travels in Egypt*, Sir John Marsham's *Chronicus Canon Aegyptiacus*, and Winer's *Biblisches Realwörterbuch*.

CIRCUM-DENUDATION, n.: in *geol.*, applied to mountain-masses left standing up, the surrounding material being worn away.

CIRCUMFERENCE, n. *sér-küm'fér-ëns*, [L. *circum*, round about; *ferens*, or *feren'tem*, carrying]: the line that bounds a circle; the measure of a circular body or a sphere round and round (the measure round about of any other body is called its *perimeter*). **CIRCUM'FEREN'TIAL**, a. *fér-ën'shüll*, pertaining to the circumference. **CIRCUM'FEREN'TOR**, n. *-fér-ën'tér*, an instrument used by surveyors for measuring angles.

CIRCUMFLECT, v. *ser'küm-flékt* [L. *circum*, round about; *flecto*, I bend]: to bend around; to mark or indicate with a circumflex. **CIR'CUMFLEC'TION**, n. *-flek'shün* [L. *flexus*, bent]: the act of bending around.

CIRCUMFLEX, n. *ser'küm-fléks* [L. *circum*, round about; *flexus*, bent]; a mark or character, thus (or) over a word or syllable, combining the rising and falling (acute

CIRCUMFLUENT—CIRCUMPOLAR.

and grave) accent; in *anat.*, applied to certain vessels and nerves, from their course, for instance, bending round a bone: V. to mark or pronounce with the circumflex. CIR'CUMFLEXING, imp. CIR'CUMFLEXED, pp. -flēkst.

CIRCUMFLUENT, a. sér'kūm'flū-ěnt [L. *circum*, round about; *fluens*, or *fluen'tem*, flowing]: flowing round, as water. CIRCUM'FLUENCE, n. -flū-ěns, a flowing round on all sides. CIRCUM'FLUOUS, a. -flū-ūs, flowing round.

CIRCUMFUSE, v. sér'kūm-fūz' [L. *circum*, round about; *fāsus*, poured]: to spread round, as a fluid; to pour round; to surround. CIR'CUMFU'SING, imp. CIR'CUMFUSED, pp. -fūzd. CIRCUMFU'SION, n. -fū'zhūn. CIR'CUMFU'SILE, a. -fū'zil [L. *fūsilis*, fluid, liquid]: capable of being poured or spread around.

CIRCUMJACENT, a. sér'kūm-jā'sěnt [circum, round about; *jaccns*, or *jaccn'tem*, lying]: lying round; bordering on every side.

CIRCUMLOCUTION, n. sér'kūm-lō-kū'shūn [L. *circum*, round about; *locūtus*, spoken—lit., a speaking round about]: the use of many words to express an idea which might have been conveyed by fewer; a periphrasis. CIR'CUMLOC'UTORY, a. -lōk'ū-ter-i, pertaining to.

CIRCUMNAVIGATE, v. sér'kūm-nāv'i-gāt [L. *circum*, round; *navigātus*, sailed—from *navis*, a ship]: to sail round, as the world; to pass round by water. CIR'CUMNAV'IGATING, imp. CIR'CUMNAV'IGATED, pp. CIR'CUMNAV'IGABLE, a. -gā-bl, that may be sailed round. CIR'CUMNAVIGA'TION, n. -gā'shūn, the act of sailing round. CIR'CUMNAVIGATOR, n. -tér, one who. The C. of the globe, at one time considered a great feat, is now regarded as a commonplace affair in a sailor's experience. The first to circumnavigate the globe was Magalhaens (q.v.), or Magellan, a Portuguese, 1519; eighteen years afterward it was accomplished by a Spaniard, and in 1577, by the illustrious Englishman, Drake. The most celebrated of circumnavigators, however, was Capt. James Cook, who, 1768-79 made three voyages round the world.

CIRCUMNUTATION, sér'kūm-nū-tā'shūn: phenomenon of plant growth sometimes called nutation. It is curvature of stem caused by one side growing more rapidly than another, and is common in orthotropic organs and those which grow rapidly in length. It changes its location frequently: a concave side may become convex in an hour; and apex bend in turn to e., w., n., and s. This inequality produces spiral motion of growth which causes apex to make a complete rotation as in the case of the sun-flower. That the phenomenon is independent of sunlight is attested by its occurrence in extreme, constant darkness. Darwin named it C., and considered it a universal property appertaining to all growing organs; but his theories have been disputed by many noted botanists.

CIRCUMPOLAR, a. sér'kūm-pō'lēr [L. *circum*, round about; *polus*, the pole]: round the pole. CIRCUMPOLAR STARS, term applied to stars so near north pole that they

CIRCUMROTATE—CIRCUMSTANCE.

do not at any portion of their course dip below the horizon. Their number increases with the latitude of the observer.

CIRCUMROTATE, v. *sér'kūm-rō-tāt'* [L. *circum*, round about; *rotatus*, wheeled—from *rōtā*, a wheel]: to whirl round with a wheel-like motion. **CIR'CUMROTA'TING**, imp. **CIR'CUMROTA'TED**, pp. *-rō-tā'tēd*. **CIR'CUMROTA'TION**, n. *-tā'shūn*, the act of whirling round like a wheel. **CIR'CUMRO'TATORY**, a. *-tā-tēr-i*, whirling round.

CIRCUMSCISSILE, a. *sér'kūm-sis'sil* [L. *circum*, round about; *scissus*, cut]: in bot., cut round in a circular manner, as seed-vessels opening by a lid.

CIRCUMSCRIBE, v. *sér'kūm-skrīb'* [L. *circum*, round about; *scribo*, I write]: to draw a line round; to bound; to limit; to confine or restrict. **CIR'CUMSCRI'BING**, imp. **CIR'CUMSCRIBED**, pp. *-skrībd*, limited; confined. **CIR'CUMSCRI'BABLE**, a. *-bū-bl*. **CIR'CUMSCRIPT'ION**, n. *-skrīp'-shūn* [L. *scriptus*, written]: limitation; in bot., the periphery or margin of a leaf. **CIR'CUMSCRIPT'IVE**, a. *-tīv*, limiting; defining external form.—**SYN.** of ‘circumscribe’: to inclose; limit; bound; restrict; include; environ; surround; restrain, encircle; encompass; confine; abridge.

CIRCUMSPECT, a. *sér'kūm-spēkt* [L. *circum*, round about; *spectus*, looked; regarded]: cautious; prudent; weighing well the probable consequences of an action. **CIR'CUMSPECT'LY**, ad. *-lī*, in a watchful, careful manner; cautiously; vigilantly. **CIR'CUMSPEC'TION**, n. *-spēk'shūn*, great caution; attention. **CIR'CUMSPEC'TIVE**, a. *-tīv*, vigilant; cautious. **CIR'CUMSPEC'TIVELY**, ad. *-lī*. **CIR'CUMSPEC'TNESS**, n. caution; discreetness.—**SYN.** of ‘circumspect’: cautious; watchful; thoughtful; wary; careful; prudent; discreet.

CIRCUMSTANCE, n. *sér'kūm-stāns* [L. *circumstan'tiā*—from *circum*, round about; *stans*, or *stantem*, standing]: that which affects a fact or case in some way; event; incident. **CIR'CUMSTANCES**, n. plu. *-stān-sīs*, condition or state of affairs; matters attending an action that modify it for better or worse; worldly means: V. to place in a particular position or condition. **CIR'CUMSTANCED**, pp. *-stānst*, placed in a particular position as regards another state. **CIR'CUMSTAN'TIAL**, a. *-stān'shūl*, relating to but not essential; pertaining to particular incidents; incidental; casual; particular; minute; in law, proving indirectly. **CIR'CUMSTAN'TIALLY**, ad. *-shūl-lī*, not essentially; exactly; in every circumstance or particular. **CIR'CUMSTAN'TIAL'ITY**, n. *-shūl-lī-tū*. **CIR'CUMSTAN'TIALS**, n. plu. *-shālz*, incidentals. **CIR'CUMSTAN'TIATE**, v. *-shū-āt*, to describe exactly; to verify in every particular. **CIR'CUMSTAN'TIATING**, imp. **CIR'CUMSTAN'TIATED**, pp. **CIRCUMSTANTIAL EVIDENCE**, in law, the evidence of facts or circumstances which naturally and necessarily accompany an act; indirect evidence showing extreme probability without absolute logical proof, more particularly of a criminal nature; the indirect evidence which connects an agent with his acts.—**SYN.** of ‘circumstance’: situation; incident; fact; event; occurrence.

CIRCUMSTANTIAL EVIDENCE—CIRCUS.

CIRCUMSTAN'TIAL EV'DENCE: see EVIDENCE.

CIRCUMVALLATION, n. *sér'küm-väl-lü'shün* [L. *circum*, round about; *vallum*, an earthen wall or parapet set with palisades, a rampart]: in *fort.*, series of works by a besieging army surrounding a place; not to serve offensively against the place, but to defend the siege-army from an attack from without. It consists usually of a chain of redoubts, either isolated or connected by a line of parapet. Such lines were much used in the sieges of the ancient and middle ages; but in modern times they are not so necessary, because the use of artillery lessens the duration of a siege, and also because the besiegers have generally a corps of observation in the open field, ready to repel any force of the enemy about to succour the besieged. A remarkable example of C. was at Sebastopol, where, while a circuit of batteries fired upon the town; an outer circuit of redoubts and lines kept off the Russians who were in the open field; but the necessity for this arose out of the smallness of the besieging force compared with that of the besieged. The narrow escape of the allies from utter overthrow at Inkermann showed the necessity for this external defence. For the relation of C. to COUNTERVALLATION, see that title. CIR'CUMVAL'LATE, a. -*väl-lät*, applied to certain papillæ on the tongue, each surrounded by a groove or trench.

CIRCUMVENT, v. *sér'küm-věnt'* [L. *circum*, round about; *ventus*, come—*lit.*, to come round about]: to gain advantage over another; to outwit; to cheat; to impose on. CIR'CUMVENT'ING, imp. CIR'CUMVENT'ED, pp. CIR'CUMVENTION, n. -*věn'shün*, the act of gaining an advantage by fraud; deception. CIR'CUMVEN'TIVE, a. -*tiv*, deluding; deceiving by artifice: see FRAUD.

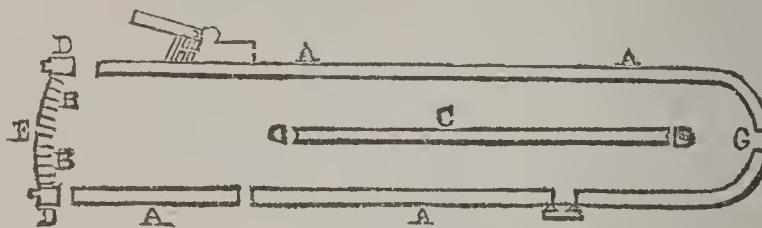
CIRCUMVOLVE, v. *sér'küm-völv'* [L. *circum*, round about; *volvo*, I roll]: to roll round; to move in a circle; to revolve. CIR'CUMVOLV'ING, imp. CIR'CUMVOLVED', pp. -*völd'*. CIR'CUMVOLU'TION, n. -*vö-lö'shün* [L. *volūtus*, rolled]: state of being rolled round; act of.

CIR'CUS: see HARRIER.

CIRCUS, n. *sér'küs* [L. *circus*, a circular line: Gr. *kirkos*, the circle described by a hawk in its flight: It. *circo*: F. *cirque*]. a circular inclosure for feats of horsemanship, etc., with seats for spectators rising all round in tiers, and sloping backward. The circus of ancient Rome was a large, oblong building, adapted for chariot-races and horse-races; used also for the exhibition of athletic exercises, mock-contests, and conflicts of wild beasts. The circensian games were alleged by tradition to have originated in the time of Romulus, when they were dedicated to Consus or Neptune, and called *Consualia*. After the first war undertaken by Tarquinius Priscus, in which he captured the Latin city of Apiolæ, his victory was celebrated by games. A space was marked out for a C., and the senators and knights were allowed to erect scaffoldings round it for themselves. The games continued to be held annually and a permanent edifice was soon constructed, distinguished, after the erection of the Flaminian and other large circi, as the circus maxi-

CIRCUS.

mus. It must have been altered and enlarged at various times. According to different computations it was capable of holding 150,000, 260,000, or 385,000 persons. Its extent also has been variously estimated. In the time of Julius Cæsar it was three stadia or 1,875 ft. long, and one stadium or 625 ft. wide, while the depth of the buildings surrounding the open space was half a stadium, or about 312 ft. All the circi in Rome, of which there were a considerable number, are now completely destroyed; but a small C. on the Appian way, about two m. from Rome, known as the circus of Caracalla, is still in a state of preservation. Its construction is believed to have differed very little from that of buildings for a like purpose. The annexed wood-cut gives some idea of the arrangement and relative dimensions of its parts.



Circus.

Along the sides and at the curved end (round the lines AA), where ascending ranges of stone seats for the spectators. At the other end, BB, were the *carceres*, or stalls, which were covered and furnished with gates, and in which the horses and chariots remained until, on a given signal, the gates were simultaneously flung open. In the centre is the *spina*, C, a long and broad wall round which the charioteers drove, terminating at both ends at the *mactæ*, or goals—three cones of carved wood which marked the turnings of the course. At each extremity of the *carceres* is a stone tower, DD. From its gates and castellated appearance, the whole of this side received the name of *oppidum*, a town. Over the *carceres* were seats for the president of the games, the consuls, or other distinguished persons. There were four entrances, of which the most important were the *Porta Pompæ*, F, and the *Porta Triumphalis*, G. The games were inaugurated by a procession from the capitol, in which those bearing the images of the gods went first, followed by the performers in the games, the consuls, and others. This procession entered through the *Porta Pompæ*, while the *Porta Triumphalis* was that by which the victors left the circus.

The *spina*, an object conspicuous from its situation, was in general highly decorated by such objects as statues, small temples, altars, etc. In the *spina* of the circus maximus, two very large obelisks were erected by Augustus and Constantius. This C. was distinguished also by six towers, and by a canal or *euripus*, formed by Julius Cæsar, to protect the spectators more effectually during the conflicts of wild beasts.

The C. was adapted especially for races, of which the Romans were passionately fond. The length of a race was

CIRENCESTER—CIRRIPEDA.

seven circuits round the *spina*, and 25 races were run in each day. The number of chariots was usually four. The charioteers adopted different colors, representing the four seasons. Bets and party-spirit ran high, and the victor received a substantial pecuniary reward at the end of the race. The athletic exercises, such as boxing and wrestling, which sometimes terminated fatally, were exhibited probably in the large open space between the *carceres* and the *spina*. The *Ludus Trojæ* was a mock-conflict between young men on horseback. A regular battle was sometimes represented (*Pugna Equestris et Pedestris*). By the formation of canals and the introduction of vessels, a *Naumachia*, or sea-fight, was occasionally exhibited; but, under the empire, this species of exhibition, as well as the *Venatio*, was gradually transferred to the amphitheatre (q.v.). In providing for the *Venatio*, or hunting of wild beasts, vast sums of money were expended. Animals were procured from every available part of the Roman empire, including Africa and Asia. The exhibition not only gave opportunity for the display of private munificence or ostentation, but attained the importance of a political engine, which none who aspired to popularity ventured to overlook. When Pompey opened his new theatre, he is said to have given public exhibitions in the C. for five days, during which 500 lions and 20 elephants were destroyed.

In modern times the C. stands but as the shadow of a name. It is of about the same size as the modern theatre, and is employed principally for the exhibition of feats of horsemanship and for acrobatic displays.

CIRENCESTER, *sī'rēn-sēs-tēr*, or *sīs'ē-tēr*, or **CICESTER**, *sīs'īs-tēr*: town in Gloucestershire, on the Churn, an upper branch of the Thames, and on the Thames and Severn Canal, 71 m. s.e. of Gloucester. It has four chief streets, and the appearance of opulence, though it has little trade. An agricultural college was founded here 1846 (see AGRICULTURAL EDUCATION). C. was the Roman *Corinium-Ceaster*, at the junction of five Roman roads, and has traces of ancient walls two m. in circuit. Roman relics have been found here, as coins, urns, baths. Canute held a council here 1020 to expel Ethelwolf. Rupert stormed C. 1642 and '43, and it was afterward given to Essex. Pop. (1881) 8,431; (1891) 7,521.

CIRRHOSIS, n. *sīr-rō'sīs* [Gr. *kirrhos*, tawny]: in med., a term applied to a diseased state of the liver.

CIRRI: see under **CIRRUS**.

CIRRIFEROUS, a. *sīr-rif'ēr-ūs* [L. *cirrus*, a curl; *fero*, I bear]: producing tendrils.

CIRRIFORM, a. *sīr'rī-fawrm* [L. *cirrus*, a curl; *forma*, shape]: having the form or appearance of tendrils. **CIRRIGEROUS**, a. *sīr-rij'ēr-ūs* [L. *gero*, I bear]: having curled locks.

CIRRIGRADE, a. *sīr'rī-grād* [L. *cirrus*, a curl; *grādus*, a step]: moving by means of cirri.

CIRRIPEDA, or **CIRRHOPODA** (also **CIRRIPED'LA**) [L.

CIRRIPEDA.

cirrus, a curl; *pedes*, feet]: class of animals which formed the genus *Lepas* of Linnæus, ranked by him among the multivalve *Testacea*, and by subsequent naturalists very generally regarded as an order of mollusks, until, in consequence of recent discoveries, a place has been assigned them among the *Articulata*, either as a distinct class of that great division of the animal kingdom, or as a sub-class of *Crustacea*. Barnacles (q.v.) and *Balani*, or acorn-shells (see *BALANUS*), are the most familiar examples of C.; but many species are known, all exhibiting much general similarity to these, all marine, and all in their mature state permanently attached to objects of various kinds, as rocks, sea-weeds, shells, etc. Some are found imbedded in corals, others in the thick skin of whales, some in the flesh of sharks. They are distributed over the world; the species, however, are not numerous anywhere; those species which adhere to fixed bodies are in general much more limited in their geographic range than those which attach themselves to floating objects or to vertebrate animals. They are generally divided into two orders, *Pedunculated* and *Sessile*, those of the former order being supported on a flexible stalk, which is wanting in the latter. Barnacles are pedunculated C., and *Balani* are sessile.

The resemblance of C. to mollusks consists chiefly in their external appearance. In the more important parts of their organization, however, the C. resemble crustaceans rather than mollusks. The gills, when these exist, occupy the same relative position as in crustaceans; but the aeration of the blood is supposed to be affected also in the *cirri*, as the limbs or organs have been generally called, of which there are six pair on each side, and which may be described as long, tapering arms, each composed of many joints and *ciliated* or fringed with stiff hairs. The *cirri* nearest the mouth are shortest, and all of them together form a sort of net for the capture of minute animals, being incessantly thrown out by the cirriped from a lateral opening of its sac, and drawn in again in such a manner as to convey to the mouth any prey which they may have caught. Almost all the C. are hermaphrodite; but in a few genera the sexes are distinct, and these show a remarkable anomaly, the males being not only very small in comparison with the females, and more short-lived, but, in their mature state, *parasitic* on the females, or attached to them as they are to other objects; while in some the still more remarkable anomaly appears of what have been called *complemental* males, attached in this way to hermaphrodites. The eggs of C. are hatched before being finally set free from the body of the parent. The young possess the power of locomotion, swimming freely in the water, and are furnished with eyes, which disappear after they have permanently fixed themselves, by instinctive choice, in situations adapted to their kind. They have also shells, quite different from those of their mature state. The shelly coverings of the C. all are formed according to a certain type, but with many variations, and they differ extremely in the number of pieces or valves of which they consist, some as the common barnacles, having only

five valves, and others having additional small pieces arranged in whorls, and exceeding 100 in number. In most of the C. the shelly covering is very complete; in some it is almost rudimentary.

The most important discoveries concerning the structure and metamorphoses of the C., determining their place in the animal kingdom, were made by J. V. Thompson. For the most extended examination of species, and for an admirable monograph, published by the Ray society, the scientific world is indebted to Charles Darwin. **CIRRIPED**, or **CIRRIPEDE**, n. *sir'ri-pēd*; **CIR'RIPEDS**, or **CIR'RIPEDES**, n. plu. *-pēdz*, crustaceous animal of the class cirripeda, as the barnacles, having curled jointed feet, and shells of several valves; also spelled **CIR'ROPOD**, n. *-rōpōd*.

CIRRO, a. *sir'rō* [L. *cirrus*, a curl]: in composition, the 'curl-cloud,' one of the primary modifications of cloud, consisting of parallel or diverging fibres which may increase in any, or in all directions, after serene weather. **CIR'RO-CU'MULUS**, n. *-kū'mū-lūs* [L. *cu'mūlus*, a mass piled up high]: the cloud which is composed of well-defined roundish masses, completely separated by small, clear sky intervals, the appearance formed being called *mackerel sky*. **CIR'RO-STRA'TUS**, n. *-strā'tūs* [L. *stratum*, the thing spread out, a bed]: horizontal or slightly inclined masses of cloud, bent down or undulated, and either separate or in groups. **CIRRUS CLOUD**: see CLOUDS.

CIR'RUS, or **CIRRUS** [L., a curl, or lock of hair], or **TENDRIL**, in Botany: a leaf altered into a slender spiral, which, by twisting around such objects as it comes in contact with, attaches the plant to them, and enables it to climb, when otherwise, through the weakness of its stem, it must have been prostrate. There are many varieties of C., as it is merely an elongation of the midrib of a pinnate leaf—an altered terminal leaflet, or becomes compound by the alteration of several leaflets, or occupies altogether the place of a single or compound leaf, and is accordingly either simple or branching. Examples of different kinds may be seen in the pea, vetch, vine, passion-flower, etc. **CIRROUS**, a. *sir'rūs*, or **CIRROSE**, a. *-rōs*, having or giving off tendrils. **CIRRI**, or **CIRRHI**, n. plu. *sir'rī*, curled, jointed filaments acting as feet to barnacles; in bot., tendrils.

CIRTA, *sēr'tā*: now Constantine, in Algeria, Africa; ancient cap. of the Massyli. It was built by architects from Carthage, and the name meant city. The Romans considered it the strongest position in Numidia. In the second Punic war it was in alliance with Carthage. Micipsa enlarged it and settled Greek colonists there; it then maintained an army of 30,000. Adherbal was besieged and defeated by Jugurtha there. After the latter's death it was held by the Romans, who there established Colonia Sittianorum. Having fallen into decay, it was restored by Constantine, and took his name. The ruins of the ancient city are extensive. See CONSTANTINE (city).

CIS, *sīs*: Latin preposition meaning 'on this side,' often prefixed to names of rivers and mountains to form adjec-

CISALPINE—CISSAMPELOS.

tives; Cisalpine, Cispadane, ‘on this side of the Alps,’ ‘of the Po.’ As most of these words are of Roman origin, Rome is considered as the point of departure..

CISALPINE, *sís-ăl'pín* [L. *cis*, on this side; *Alpes*, the Alps]: on this side of the Alps in regard to Rome; applied to that part of Gaul lying s. of the Alps. After the battle of Lodi, 1796, May, Gen. Bonaparte proceeded to organize two states—one s. of the Po, the Cispadane Republic, and one n., the Transpadane. These two, however, were in 1797 united under the title of the C. Republic, which embraced Lombardy, Mantua, Bergamo, Brescia, Cremona, Verona, and Rovigo, the duchy of Modena the principality of Massa and Carrara, and the three legations of Bologna, Ferrara, and the Romagna, having more than 16,000 sq. m.; pop. 3,500,000. Milan was the seat of the government or directory, and the place of meeting of the legislative assembly, which was composed of a senate of 80 members, and a great council of 160. The army consisted of 20,000 French troops, paid by the republic. A more intimate connection was formed 1798 between the new republic and France, by an alliance offensive and defensive, and a treaty of commerce. The republic was dissolved for a time in 1799 by the victories of the Russians and Austrians, but was restored by Bonaparte, after the victory of Marengo, with some modifications of constitution and increase of territory. In 1802 it took the name of the Italian republic, and chose Bonaparte for its president. A deputation from the republic 1805 conferred on the Emp. Napoleon the title of King of Italy, after which it formed the kingdom of Italy till 1814.

CISLEITHANIA, *sís-lí-thá'né-a*, or *sís-lí-tá'né-á*, or CISLEITHAN AUSTRIA, *sís-lí'than* or *sís-lí'tan*: unofficial name since 1867 of so much of the Austrian dominions as are not within the Hungarian boundary, which is formed partly by the river Leitha. Besides the German provinces, the term covers Dalmatia, Istria, Galicia, and Bukowina. C. embraces less than half the territory of the empire, and half the population or a little more.

CISPADANE REPUBLIC: see CISALPINE.

CISPLATINE REPUBLIC, *sís-plá-tén'*: designation, 1829–31, of the republic of Uruguay (q.v.); previously Brazilian territory, known as the Cisplatine province.

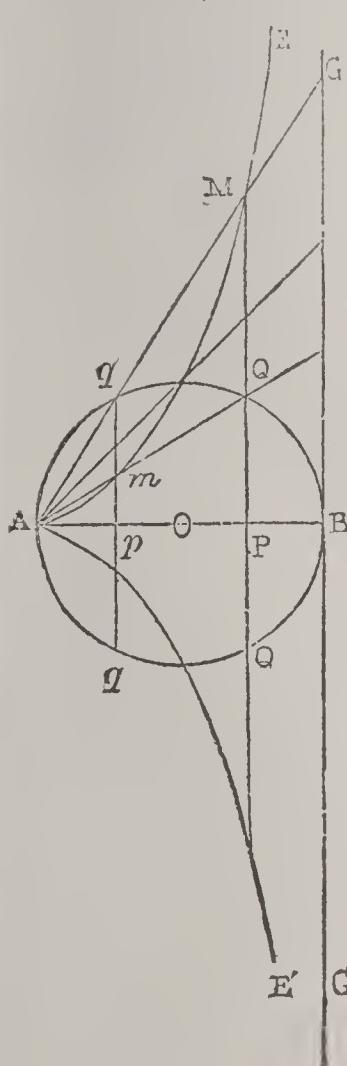
CISSAMPELOS, *sís-ăm'pél-ös* [Gr., ivy-vine]: genus of plants of the nat. ord. *Menispermaceæ*, of which some species possess valuable medicinal properties, particularly *C. Pareira*, native of the W. Indies and warm parts of America, the root of which is known by the names of *Pareira Brava* and *Butua Root*. The plant is called Velvet Leaf in the W. Indies, from the peculiar and beautiful appearance of the leaves. It is a climbing shrub, with roundish-triangular leaves, racemes of small yellow flowers, and small hairy scarlet berries. The root appears in commerce in pieces two or three ft long, varying from the thickness of the finger to that of the arm, tough, but so porous that air can be blown from end to end of it. It has a sweetish, afterward nauseous taste; is used as a tonic and diuretic, appears

CISSEY—CISSOID.

to exercise a specific influence over the mucous membrane of the urinary passages, and is administered with advantage in chronic inflammation of the bladder. It was formerly supposed to possess great lithontriptic powers, which it was even hoped would put an end to all necessity for lithotomy. It is supposed that the roots of other plants of the same order are often fraudulently mingled with it; but those of several species of *C.*, both American and East Indian, appear to have nearly the same properties. An alkaloid, called *Cissampelin*, in this root, gives it its properties.

CISSEY, *cēs sē*, ERNEST LOUIS OCTAVE COURTOT DE: 1810, Dec. 23—1882, June 16; b. Paris: general. He was educated at Saint Cyr, became aide to Gen. Trézel 1835, served in Algeria and the Crimea, and commanded the 11th div. at Rennes 1863–70. He led the 1st div. of the 4th corps at Metz, urged Bazaine to break through the German lines, and was sent on an unsuccessful mission to arrange terms of capitulation. He was elected to the assembly 1871, Feb., was prominent in rescuing Paris from the communists, and was minister of war 1871–73 and 1874–76. He was accused 1880 of disclosing secrets of the war-office, but honorably acquitted. He died in Paris.

CISSOID, or **CISSOID OF DIOCLES**, n. *cēs'soyd əv dē'ō-klēz*



Cissoid.

C. is $y^2 = \frac{x^3}{(a-x)}$. The curve may be constructed mechanically. The area of the space in

$$C. \text{ is } y^2 = \frac{x^3}{(a-x)}.$$

The curve may

CISSUS—CISTERN.

cluded between the two branches and their asymptote is equal to three times the area of the generating circle. If, instead of a circle, any other curve be employed as the generating curve, the curve generated in the same way as the C. of D. is called *cissoidal*.

CIS'SUS: see VITACEÆ.

CIST, n., also spelled CYST, *sist* [L. *cista*, a basket of wicker-work: Gr. *kistē*: F. *ciste*: It. *cesta*]: a chest or box: in *archæol.*, an anc. tomb of the Celtic period, consisting of two rows of stone, and covered with rude stone slabs. CIS'TED, a. inclosed in a cist.

CISTERCIAN, n. *sis-tér'shi-án*: one of an order of reformed Benedictine monks established originally at Citeaux (Cistercium), near Dijon, France, where the parent monastery was founded 1098 by the Benedictine abbot, Robert of Molême. Through the influence chiefly of St. Bernard of Clairvaux, who became a monk of Citeaux, 1113, the order, within little more than a century after its foundation, was in possession of more than 1,800 abbeys in France, Germany, England, Ireland, Denmark, Norway, and Sweden. The C. were distinguished from the order of Clugny by their severer rule and stricter poverty, avoiding everything like splendor in their churches, even gold and silver crosses; by being submissive to the jurisdiction of the bishops, at least till after the death of St. Bernard; by not meddling with the cure of souls; by wearing a white robe with a black scapulary; and by their peculiar form of government, introduced by Innocent III., 1215, into all the monastic orders. In France, the members of this order called themselves Bernardines, in honor of St. Bernard. Among the fraternities emanating from the C., the most remarkable were the Barefooted monks or Feuillans, and the nuns of Port Royal in France, the Recollets or reformed Cistercian nuns in Spain, and the Trappists. The number of Cistercian abbeys in England, in the reign of Henry VIII., was 75, besides 26 Cistercian nunneries. In Scotland, there were 11 abbeys and 7 nunneries. Among the English abbeys were Woburn, Tintern, Furness, Fountains, Kirkstall, and Rievaulx; among the Scottish, Melrose, Dundrennan, Kinloss, Glenluce, Culross, Deer, Balmerino, and Sweetheart or New Abbey. The chief French abbeys, *les quatre premières filles de Citeaux*, as they were called, were La Ferté, Pontigny, Clairvaux, and Morimond. Riches and indolence brought this powerful order, like others, into decay. Even before the Reformation, many of their convents had ceased to exist. The French Revolution reduced the C. to a few convents in Spain, Poland, Austria, and Saxony. The ancient buildings of the order at Citeaux are now occupied as a juvenile reformatory. The celebrated Clos Vougeot wine was made from grapes on lands belonging to this abbey.

CISTERN, n. *sis'térn* [OF. *cisterne*—from L. *cister'na*, a reservoir for water—from *cista*, a chest]: tank or box, oblong, square, or cylindrical, for storing water for domestic use; sometimes a natural reservoir; hollow place containing

CISTOME—CITATION.

water. Cisterns are made of wood, usually lined with lead or zinc; or of iron. For very large cisterns the cylindrical form is best fitted to sustain the pressure of water on the sides: see WATER SUPPLY.

CISTOME, n. *sís'tō-mē* [Gr. *kistē*, a small box or chest, or L. *cista*, a basket of wicker-work: Gr. *stoma*, a mouth]: in bot., a funnel-shaped prolongation of the cuticle into the openings of the stomata.

CISTUS, *sís'tūs*, or ROCK'-ROSE: genus of exogenous

plants, which gives its name to the nat. ord. *Cistaceæ*; an order allied to *Cruciferæ* and *Caparideæ*, and containing about 200 known species of shrubs and herbaceous plants, natives chiefly of the s. of Europe and n. of Africa. The flowers have generally five petals, very delicate; the stamens are numerous, the style simple, the fruit a capsule. Many species of this order are more or less resinous; and from the twigs of some species of *Cistus*, natives of the s. of Europe and the Levant, particularly *C. Creticus*, *C. Cyprius*, and *C. ladaniferus*, the resinous substance called *Ladanum* is obtained which is used as a stimulant, chiefly in plasters, though obsolete in British medical practice. Many species of *Cistus* are cultivated for the beauty of their flowers, which are red, white, lilac, yellow, or frequently of two colors, and are common in gardens and greenhouses. Most of the larger kinds require some protection in the winters of temperate climates. One species, whose yellow flowers are a frequent ornament of dry



Helianthemum Vulgare.
hill-slopes, is *Helianthemum vulgare*.

CIT, n. *sít*: familiar name for CITIZEN.

CITADEL, n. *sít'ā-děl* [F. *citadelle*—from It. *cittadella*, a little town—from L. *civita'tem*, a city]: a fortress or castle in or near a city; a place of arms; usually having four or five bastions. A C. serves two purposes: it enables the garrison of a town to keep the inhabitants in subjection; and, in case of a siege, it forms a place of last retreat for the defenders, and enables them to hold out after the rest of the town has been captured. A C. should fully command the fortifications of the city, and have a large space round it clear of buildings.

CITA'TION: act of calling a party into court to answer to an action, to give evidence, or to perform some other judicial act. Being derived from the civil law, the

CITE—CITIZEN.

term C. is known in England chiefly or exclusively in the ecclesiastical courts; but it is in frequent use in the legal systems of France and Scotland (see DEBTS, RECOVERY OF). See EDICTAL CITATION.

CITATION FOR INTERRUPTING PRESCRIPTION.—Either the positive or negative prescription may be interrupted by citation in an action: see PRESCRIPTION.

CITE, v. *sit* [F. *citer*, to summon—from L. *citārē*, to put into quick motion, to call]: to call upon to appear in a court of justice; to summon; to quote; to repeat the words of another in proof; to confirm or illustrate from some authority. Ci'TING, imp. Ci'TED, pp. CITATION, n. *sī-tū-shūn*, a summons into court; a quotation. Ci'TABLE, a. -*tā-bl*, capable of being cited. Ci'TATORY, a. -*tā-tōr-i*, having power or form of citation; Ci'TER, n. -*tér*, one who. CITAL, n. *sī'tūl*, in *OE.*, citation.—SYN. of ‘cite’: to summon; call; bid; invite; quote.

CITHÆRON, MOUNT: see ELATEA.

CITHERN, n. *sīth'ērn* [Ger. *cither* and *zitter*—from L. *cith'ārū*; Gr. *kith'ārū*, the cithern]: a stringed musical instrument resembling the guitar; also spelled CITTERN and GITTERN; guitar [Sp.] is from the same root.

CITICISM and CITIED: see under CITY.

CITIZEN [see CITY]: defined by Aristotle as one to whom belongs the right of taking part in the deliberative or legislative, and in the judicial proceedings of the community of which he is a member (*Politics*, iii. 1). Such citizenship can exist only in a free state. Between a C. in this sense and a subject there is this distinction, that while the latter merely is governed, the former, being governed, also governs; and thus, though every C. is a subject, many subjects are not citizens. In this sense, which was attached to the term by the Romans, when used in its highest meaning—that, viz., of the *civis optimo jure*—the term has passed to the modern world, gradually tending toward this application everywhere—at least tending to include increasing numbers under the term as thus applied. In the heroic ages of Greece the idea of citizenship was imperfectly understood. The members of the council and assembly were mere advisers of the kings, who, as descended from gods, were regarded as monarchs in the strict sense. But something of the C. character even then attached to the immediate followers of the chief, as contrasted with slaves and strangers; and it was from them that the dominant class sprang, which everywhere overthrew the monarchies, and established the small self-governing states—the democracies, or rather aristocracies, of Greece. At first the rights of citizenship in Athens and other Greek communities were readily attained by those not born to them; but at a later period, when the organization of Greek civic life had reached high completeness, admission to the roll of citizens was procured with great difficulty. In Sparta, indeed, according to Herodotus, so sparing were they of their national privileges, that there were only two instances of their conferring them in their full measure on strangers,

CITIZEN.

The Periœci, or strangers by origin, who shared the Spartan territory, though not on equal terms with the Spartans, were probably, as regarded political rights, much in the same position with the Roman plebeians. In Rome, there were perfect and less perfect citizens, whose respective positions are thus described by Savigny in his *History of the Roman Law in the Middle Ages*: ‘In the free republic there were two classes of Roman citizens—one that had, and another that had not, a share in the sovereign power. That which peculiarly distinguished the higher class, was the right to vote in a tribe, and the capacity of enjoying magistracy.’ All the private rights of citizenship (the *jus connubii* and *jus commercii*) belonged to the citizens of the lower class, but the public rights of voting in a tribe, and of receiving the honors of the magistracy (*suffragium et honores*), were denied them. Under these two classes, again, there were two others—the Latini and the Peregrini.

Roman citizenship was acquired most commonly by birth, but for this it was requisite that both father and mother should be citizens. If a C. married a Latina, or a Peregrina, even believing her to be a C., the children begotten of the marriage followed the status of the mother. But latterly it was permitted, by a decree of the senate, to the parents to prove their mistake, and thus to raise both the mother and her children to the rank of citizens. In earlier times, the citizenship could be conferred on a stranger only by means of a *lex*—i.e., by a vote of the people assembled either in one or other of the Comitia (q.v.). It was conferred at a single sweep on the whole of the Latini and Socii. In the case of some of the provinces, both in Italy and Gaul, the *Latinitas* was given as a step to the *Civitas*, the former being converted into the latter in the case of any one who had exercised a Magistracy in his own state or city.

When the imperial power was established, the public rights which formed the chief characteristic of the full Roman citizenship became little more than empty names; and the only value which thenceforth attached to it consisted in the private rights which it conferred. Such as it was, the constitution of Caracalla extended it to the whole Roman world, the distinctions between Cives and Peregrini and Latini being preserved only in the case of certain individuals, such as freedmen and their children. Even this distinction was abolished by the legislation of Justinian, the only divisions of persons henceforth being into subjects and slaves. For a fuller account of this interesting subject see Smith’s *Dictionary of Greek and Roman Antiquities*.

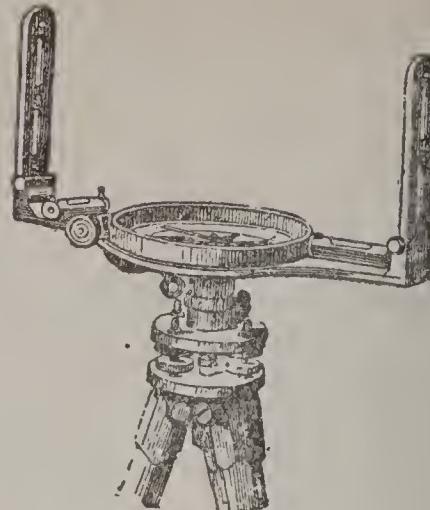
In its modern use, the term C. is applied in Great Britain to a dweller in a town, and this either in the general sense of an inhabitant, or in the narrower and stricter sense of one who has right to its privileges and franchises. In France, it denotes any one who is born in the country, or naturalized in it. In the United States it denotes any person who has legal right to vote for public offices, and to be

PLATE 6.

Circumcisile
Citron



Circumcisile Dehis-
cence.



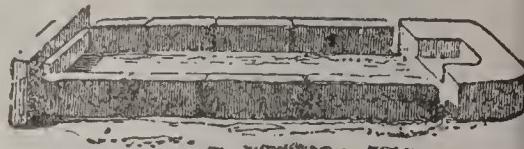
Circumferentor with rack-
work adjustment.



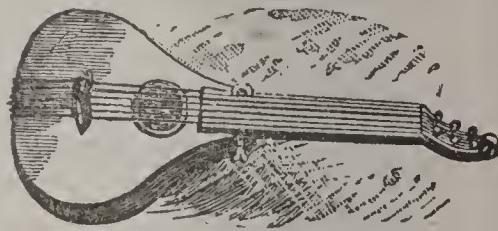
Cistercian. — Pascal's Col-
lection des Costumes.



Cirrus or Ter-
dril.



Cist.



Cithern (17th century).



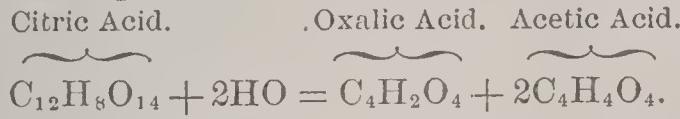
Citron (*Citrus medica*): a, Fruit; b, Transverse section of fruit.

CITRIC—CITRIC ACID.

elected to public office; and it further extends to any person, native or naturalized of either sex or any age, who is entitled to full protection in the exercise of private rights—this last application of the term (analogous to that of *subject* in England) including women and children, who though not voters are counted by the law as citizens. Persons born of American parents during foreign travel, or persons residing abroad in the United States diplomatic or consular service—also the children of such—are citizens of the United States. See NATURALIZATION. So long as slavery was an institution, slaves were not included in the title; and Indians, as such, are not now included.

CITRIC, a. *sit'rik* [L. *citrus*, a lemon, or the tree]: belonging to lemons or limes; from the lemon, the produce of *Citrus limōnum*. CITRIC ACID, an acid extracted from the juice of lemons or limes. CITRINE, a. *-rīn*, like a citron; lemon-colored or yellow-green. CITRON, n. *-rōn* [F. *citron*—from mid. L. *citrōnem*—from L. *citrus*]: the fruit of the citron-tree; the *Citrus medica*, ord. *Aurantiacē*. CITRATE, n. *sit'rāt*, a salt of citric acid.

CITRIC ACID ($C_{12}H_8O_{14}$, or $C_{12}H_5O_{11}, 3HO$): a powerful tribasic acid, which crystallizes in large transparent colorless prisms. These crystals are readily soluble in water and alcohol, but insoluble in ether. The crystals contain two atoms of water of crystallization (not expressed in the above formulæ), which are expelled at a temperature of 212° . Citric acid has a strongly acid taste and reaction, and displaces carbonic acid from the carbonates. Its watery solution quickly becomes mouldy on exposure to the air, and the acid is then found to be converted into acetic acid. When heated to about 350° , vapor of acetone and carbonic oxide are given off, and a residue of aconitic acid ($C_{12}H_6O_{12}$), an acid occurring in the leaves and roots of monkshood and other species of Aconite, is left; and when fused with potash, it assimilates the elements of water, and is decomposed into oxalic and acetic acids, as shown in the equation:



These reactions illustrate the changes which organic acids naturally undergo in the vegetable kingdom. It is to the presence of citric acid that very many fruits owe their agreeable acidity. It occurs in a free state either alone or associated with malic and tartaric acids in limes and lemons, in oranges, cherries, currants, raspberries, gooseberries, strawberries, whortleberries, etc., and in several tubers and bulbs, as in the potato and onion. It exists also in combination with potash or lime in potatoes, onions, and artichokes.

This acid, which is almost always prepared from lemon or lime juice, is thus obtained. The juice, after undergoing incipient fermentation, is filtered, and neutralized with chalk; and the insoluble citrate of lime thus formed is decomposed with very dilute sulphuric acid. On the

CITRON.

removal of the sulphate of lime thus formed by filtration, the solution of citric acid must be concentrated till a film begins to form, when the crystals readily separate on cooling. Citric acid has been prepared also from unripe gooseberries, whose juice is allowed to ferment; and after the removal of the alcohol by distillation, the acid is separated in the way already described. 100 lbs. of gooseberries yield 10 lbs. of spirit of spec. grav. 0·928, and 1 lb. of crystallized acid.

Citric acid is used largely in manufactures; calico-printers employ it for discharging the mordant from the cloth in patterns; and it is used in dyeing silk with safflower, and for heightening the tint of cochineal. The raw material from which the acid for these purposes is obtained 'is a black fluid like thin treacle, which comes from Sicily, and is obtained by inspissating the expressed juice of the lemon after the rind has been removed for the sake of the essential oil.'—Watt's *Dictionary of Chemistry*, i. 995.

The most important of the numerous salts of citric acid are the citrates of lime, potash, ammonia, and iron. *Citrate of Lime* ($C_{12}H_5O_{11}, 3CaO + 4Aq$) is formed in the preparation of citric acid, and is a fine white crystalline powder, more soluble in cold than in hot water. *Citrate of Potash* ($C_{12}H_5O_{11}, 3KO + 2Aq$) is formed by neutralizing the acid with carbonate of potash, and crystallizes in clear deliquescent needles, insoluble in alcohol. *Citrate of Ammonia* ($C_{12}H_5O_{11}, 3NH_4O$) can be obtained only in solution. *Citrate of Iron* is prepared by dissolving freshly precipitated peroxide of iron in a warm solution of acid acid; a reddish-brown solution is formed, which, on evaporation, yields brilliant scales of a light-brown color. Excepting the first, all these salts are employed in medicine—the citrates of potash and ammonia as diaphoretics and febrifuges (see AÉRATED WATERS), and the citrate of iron as a tonic. Lemon juice, in which citric acid is the most active ingredient, is a most valuable medicine in scurvy, active hemorrhage, rheumatism, etc.; and when it cannot be obtained, citric acid is the best substitute. The general uses of citric acid in combination with an alkali have been already noticed.

CITRON (*Citrus medica*): tree cultivated in the s. of Europe, and other warm, temperate, or sub-tropical countries for its fruit; native of the forests of the n. of India: see CITRUS. By many botanists it is regarded as a mere variety (or perhaps the original type) of the species which produces also the lemon, sweet lemon, lime, and sweet lime; by others, these, or some of them, are regarded as distinct species. The C. has oblong toothed leaves; the flowers are externally of violet color; the fruit is large, warted, and furrowed; the rind very thick and tender; the pulp sub-acid. The pulp is refrigerant; but the part chiefly valued is the rind, which has a delicious odor and flavor, and is made into a very agreeable preserve. The juice is sometimes employed to make a syrup, or, with sugar and water, for a beverage, and for flavoring liquors. The rind

CITRONELLA—CITRUS.

and juice may be said generally to be applicable to the same purposes as those of the lemon, but the juice is less acid. The CEDRATE is a variety of the C., from which chiefly the fragrant Oil of C., or OIL OF CEDRATE, used by perfumers, is procured. In Germany, the name Cedrate is



Citron.

extended to all kinds of C., and the name C. is usually given to the lemon. The varieties of C. are numerous. The fruit of the largest kinds is sometimes 9 inches long, and 20 lbs. in weight. The C. is successfully cultivated in temperate climates by the aid of artificial heat and the protection of glass.

It is probable that the C. is meant in some passages of the Old Testament where the word apple is used in the English version.

CITRONELLA, *sī-tro-nēl'la*: a term of various meanings. 1. An oil used by perfumers, imported from Ceylon, and produced from the grass *Andropogon Schænanthus*.—2. A perfume prepared from *Melissa officinalis* or common balm.—3. A liquid made in Barbadoes from citron rind, and used in France to flavor brandy.—4. Southernwood, *Artemisia Abrotanum*.

CITROS'MA: genus of trees of the nat. ord. *Monimiaceæ*, of which the leaves abound in an oil resembling, if not identical with, oil of citron; natives of tropical S. America.

CITRUS, *sīt'rūs*: genus of plants of the nat. ord. *Aurantiaceæ*, consisting of trees and shrubs, natives of India and other warm parts of Asia, but many of which are now com-

CITTADELLA—CITY.

mostly cultivated in all warm climates for their fruit. To this genus belong the ORANGE: CITRON: LEMON: LIME: BERGAMOT: SHADDOCK: POMPELMOOSE: FORBIDDEN FRUIT: etc. (See these titles.) It is distinguished by numerous stamens, irregularly united in bundles by their filaments, a pulpy fruit with a spongy rind, and smooth seeds. The leaves and the rind of the fruit abound in volatile oil. The flowers also contain volatile oil, and exhale a peculiar fragrance.

CITTADELLA, *chit-tá-dé'l-lá*: town of n. Italy, province of Padua, 14 m. n.e. of Vicenza. It is on the Brentella, an affluent of the Brenta, is walled, and has woolen and paper manufactures. Pop. 4,000.

CITTA DI CASTELLO, *chit-tá' dē kás-té'l-ló*: town of central Italy, 25 m. n.w. of Perugia. C. has a very pleasant situation on the left bank of the Tiber. Though not a large place, it is exceedingly rich in ecclesiastical structures of Gothic architecture, palatial residences, and works of art. Raphael painted many of his early works in C. di C., where they remained in churches and private galleries until the French invasion, when they were dispersed. Two small pictures of this great master still remain in C. di C. Silk-twist is the chief manufacture of the town. Pop. abt. 5,580.

CITTA VEC'CHIA: see MALTA.

CITY, n. *sít'i* [F. *cité*—from mid. L. *cítātem*—from L. *civitātem*: It. *citta*]: a corporate town; and in England in fact, though not necessarily, a cathedral town: ADJ. pertaining to a city. CIT'IZEN, n. *-zén* [OF. *citeain*, a citizen—from OF. *cite*; F. *cité*, a city]: the native of a city; one who enjoys the rights and privileges pertaining to a city. CIT'IZENSHIP, n. the state of being vested with the rights and privileges of a citizen. CRITICISM, n. *sít'i-sizm*, the conduct or manner of a dweller in a city. CITED, a. *sít'id*, pertaining to a city; having the quality of a city; containing cities.

CITY: in the United States a chartered municipal corporation, having for its chief executive a mayor, and usually governed also by a board of aldermen and a common council; and having its clerk and its seal. The legislatures in the different states grant charters to cities under varying conditions: usually a certain population is one of the requisites.

In the sense in which it was first used in the Romanic languages of modern Europe, the word C., like its Latin original, was probably equivalent to state (q.v.) (*respublica*) rather than to town or borough (*urbs*, *municipium*); and while the latter signified a collection of hearths and households, governed by municipal laws internally, but subject externally to the laws of the country of which they formed a part, the former was applied only to such towns as, with their surrounding district, were independent of any external authority whatever. Nearly the only cities in this sense now are the free towns of Germany, and such of the cantons of Switzerland as consist chiefly of a town and its

CITY OF REFUGE—CIUDAD REÄL.

surroundings, for example, Geneva. But as the ancient Gauls, though composing one nation, were divided into tribes, living in different cantons, each with its town, to which the term *civitas* was applied, and as they also acknowledged a species of central authority, several cities sending delegates to a central one of greater extent and importance to discuss their common affairs, there is reason to believe that the term C. was applied *par excellence* to these central places of meeting, and that it thus, from a very early period, signified a *capital* or *metropolis*, though not independent. In England, the term often is said to be confined to towns or boroughs which are or have been the seats of bishops' sees, but this restriction rests on no sufficient ground. ‘The cities of this kingdom are certain towns of principal note and importance, all of which either are or have been sees of bishops; yet there seems to be no necessary connection between a city and a see.’—Stephen's *Com.*, i. 124. See BOROUGH.

In the case of towns which have grown greatly beyond their original dimensions, it is not unusual to give the name of C. to the limited space which they originally occupied—thus, we speak of the C. of London, the C. of Paris, of Vienna, etc.—small parts of the present areas covered by the great towns usually known by those names.

CITY OF REFUGE: six cities set apart by the Jewish law (Num. xxxv., Deut. iv., Josh. xx.), three on each side of Jordan, as places of refuge for the manslayer, in which he might find an asylum, and be safe from the avenger of blood: see BLOOD, AVENGER OF. These cities were Hebron, Shechem, and Kadesh-Naphtali on the w. of Jordan; Bezer, Ramoth-Gilead, and Galan, on the e. The Jews were careful to keep the roads to the cities of refuge clear, and signs were set up to show the way. The manslayer—not being a wilful murderer—was received and protected in the C. of R. until the death of the high-priest, after which the avenger of blood had no longer any claim against him. Thus this peculiar institution was connected with the typical institutions of the Jewish religion, and partook somewhat of their character, while it modified and restrained the avenging of blood. The C. of R. afforded no permanent protection to the murderer, who, if his crime could be proved against him, was to be taken from it that he might be put to death.

CIUDAD, *thē-ō-thāth* [from the Lat. *civitas*]: Spanish word for ‘a city;’ used as a prefix corresponding to the English affix *town*.

CIUDAD BOLIVAR: see ANGOSTURA.

CIUDADELA, *sē-ō-dū-dā'lā*: seaport town of the island of Minorca, on a plain of the w. coast; lat. $39^{\circ} 58'$ n., long. $3^{\circ} 52'$ e. It is walled, and has a cathedral, also several convents. The inhabitants are engaged in agriculture and the manufacture of woolen fabrics. A considerable trade is carried on at the port. Pop. about 10,000.

CIUDAD REAL, *thē-ō-thath rā-äl'*: province of Spain,

CIUDAD REAL—CIVET.

containing most of old La Mancha and part of New Castile; 7,837 sq. m. It is traversed by the Guadiana, and, except in the neighborhood of this river and its branches, is mainly barren. The mountains yield iron, silver, copper, lead, antimony, cinnabar, coal, marble, and other minerals; mineral springs abound, and the noted quicksilver mine of Almaden is in the s.w. corner. Wheat, rye, barley, maize, hemp, flax, aniseed, etc., are produced; also the domestic animals. Woolen, cotton, linen, and silk goods are exported, with oil, wine, brandy, and saltpetre. The chief towns are C. R. the capital, Manzanares, Almodavar, Calatrava, and Valdepeñas. Pop. (1900) 321,580.

CIUDAD REAL: town of Spain, cap. of the province of C. R.; on a plain between the rivers Guadiana and Jabalon, abt. 100 m. s. of Madrid. It is surrounded with walls in parts ruinous, and has some handsome houses; but, on the whole, it is a poor, dull place. It has two or three fine churches—the nave of the parish church being one of the finest Gothic specimens of the kind in Spain,—and several monasteries. There are manufactures to a small extent of coarse woolens, linen, and table-cloths, and a trade in the agricultural produce of the district. Pop. (1877) 13,589.; (1897) est. 14,000.

CIUDAD REAL (town in Chiapas, Mexico): see SAN CHRISTOBAL.

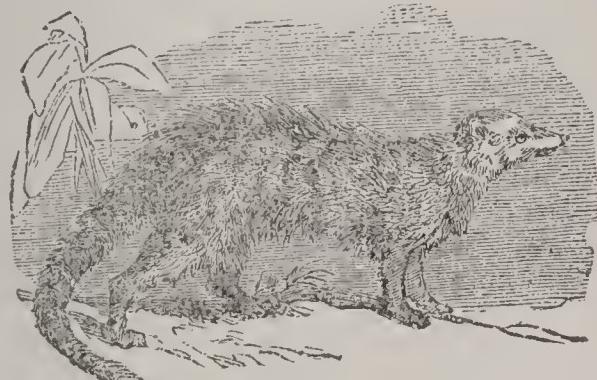
CIUDAD RODRIGO, *thē-ō-thāth' rōth-re'gō* (Roderic's Town): fortified town of Spain, province of Salamanca, abt. 50 m. s.w. of the city of Salamanca. It is on an elevation above the river Agueda, which washes the walls, and is here crossed by a fine bridge. It has a cathedral, the earliest portion of which dates from the 12th c. The town generally has a mean appearance, and is not cleanly. During the Peninsular war, C. R., though of little strength itself, was considered a place of the utmost importance, as a key of Spain on the w., and was consequently an object of struggle both to the French and the allies. In 1810, June, the French, under Massena, invested the town, and after a gallant defense by the Spaniards, it was forced to surrender, July 10. The fact that Wellington was in the immediate vicinity, with an army of 30,000 men, and afforded no relief whatever, was a subject for outcry against the hero; but subsequent events at Torres Vedras showed that his policy was the right one. In 1812, Jan., after a siege of 11 days, the place was assaulted, and after a bloody struggle, the British captured the town. The storming is one of the most brilliant achievements in British military annals, and important as it was brilliant; 150 guns fell into the hands of the captors, besides vast stores of every kind, and the moral effect was even more than proportionately great. Pop. about 9,000.

CIVES, n. plu. *sīvz*, same as CHIVES, which see [OF. *cive*, a scallion or unset leek—from L. *cæpa*, an onion]: a sort of garlic or leek.

CIVET, n. *sīv'ēt* [F. *civette*; It. *zibetto*—from Ar. *zébed*:

Pers. *zabád*]: substance taken from a gland or bag under the tail of the civet cat—used as a perfume.

CIVET (*Viverra*): genus of carnivorous quadrupeds, of the family *Viverridae* (q.v.), having the body elongated, in some of the species as much as in the weasel tribe; the head also is long, and the muzzle sharp. The ears are short, broad, and rounded. The feet have five toes, and the claws are only semi-retractile. There is a more or less conspicuous erectile mane along the back, as in hyænas. Between the anus and the sexual organs, in both male and female, there is a large double pouch, in which is secreted a peculiar odoriferous fatty substance, called *Civet*, much used as a perfume. The use of this pouch and its secretion to the animal is not well known. There are several species of C., of which the best known is the common or African C. or Civet-cat (*V. ciretta*), native of the n. of Africa. The common C. is from two to three ft. long. The height is from ten inches to a foot; the hair long, brownish gray, with numerous black bands and spots. The C. preys on birds, small quadrupeds, and reptiles, and generally takes its prey by surprise. It is often kept in confinement for the sake of its perfume, which is removed from the bag about twice a week by means of a small spatula, and is ob-



Civet.

tained most abundantly from the male, and especially after he has been irritated. A dram is a large quantity to obtain at a time. The civets kept for this purpose are fed on raw flesh; the young partly on farinaceous food. The town of Enfras, in Abyssinia, is a principal seat of the C. trade, and great numbers are there kept.

CLIVIALE, *se-vé-ál'*, JEAN: 1792–1867, June 13; b. near Thiézac, Auvergne: French surgeon, originator of lithotomy. He studied under Dupuytren in Paris, and from an early age concentrated his thoughts and labors on this substitute for the dangerous operation of lithotomy: i.e., he aimed to crush stone in the bladder before removing it. From 1827 he published several books on this topic: his *Guide pratique* appeared after his death. He was a member of the Med. Academy, an associate of the Institute, and an officer of the Legion of Honor. He died in Paris.

CIVIC, a. *sív'ik* [L. *civis*, a citizen]: pertaining to a city or citizen. CIV'IL, a. *-il* [F. *civil*—from L. *civīlis*, belong-

CIVIC CROWN—CIVIL DEATH.

ing to citizens]. relating to the ordinary affairs and government of the people of any country, as *civil rights and privileges*, etc.; political as opposed to criminal; intestine as opposed to foreign; ordinary life as distinguished from military; courteous; gentle and obliging; affable; kind; polite. **CIV'ILLY**, ad. -*lī*, in a manner relating to government; not after a criminal manner; without rudeness; politely. **CIVILITY**, n. *si-vil'i-ti*, politeness; courtesy; obliging behavior in the treatment of others. **CIVIL'ITIES**, n. plu. -*i-tiz*, acts of politeness or courtesy, etc. **CIVIL'IAN**, n. -*i-ān*, one engaged in the ordinary pursuits of life; in *India*, a member of the civil service: ADJ. opposed to *military* or *naval*. **CIVILIZATION**, n. *siv'i lī-zā'shūn* [F.—L.]: state of being refined in manners; state of being free from the grossness of savage life. **CIV'ILIZE**, v. -*līz*, to reclaim from barbarism; to make less gross in manners. **CIV'ILI'ZING**, imp. **CIV'ILIZED**, pp. -*līzd*. **CIV'ILIZER**, n. one who or that which. **CIVIL ACTION**, any action at law not criminal. **CIVIL SERVICE**, the body of persons in the pay of the state, as distinguished from the naval and military services. **CIVIL DEATH**, the being banished or outlawed. **CIVIL LAW**, the Roman law; the ordinary laws, written and unwritten, which govern a nation or commonwealth, as opposed to criminal law. **CIVIL LIST**, the whole of the sovereign's revenue in his own distinct capacity; the expenditure of the royal household. **CIVIL WAR**, a war between parties of the inhabitants of the same country.—SYN. of 'civil': polite; obliging; accommodating; courteous; complaisant; considerate.

CIVIC CROWN: reward bestowed in ancient Rome for saving a citizen's life in battle. Usually of oak leaves, it had in earlier days been of elm or beech. The recipient could wear it on all public occasions, and was held in much honor: it gave him a place next the senators, and exempted him with his father and grandfather, from all public burdens. Originally intended for soldiers only, it was granted to Cicero for discovering Catiline's conspiracy, and afterward to Augustus.

CIVIDALÉ, *chē-vē-dā'lā*: walled town of Venetia, n. Italy, about ten m. e.n.e. of Udine; on the Natisone, here crossed by a bridge. C. is the ancient *Forum Julii*, and its collegiate church, a fine Gothic edifice, dates from the 8th c. In its archives are some valuable manuscripts. It has silk and cotton factories.—Pop. abt. 4,500.

CIV'IL DEATH: in English law, cessation of the person's legal rights while the physical life remains; banishment or outlawry. 'Civil death occurs where a man, by act of parliament or judgment of law, is attainted of treason or felony; for immediately upon such attainder he loses (subject indeed to some exceptions) his civil rights and capacities, and becomes, as it were, *dead* in law. It also took place formerly where any man abjured the realm by the process of the common law; or "entered into religion," that is, went into a monastery, and became there a monk professed; in which cases he was absolutely dead

CIVIL ESTABLISHMENTS—CIVILIZATION.

in law, and his next heir should have the estate.. Even in the times of popery, the law of England took no cognizance of *profession* in any foreign country, because the fact could not be tried in English courts; and therefore, since the Reformation, this disability is held to be abolished; as also the disability of banishment, consequent upon abjuration, by stat. 21 Jac. I. c. 28.' Stephen's *Com.*, i., 142, 143.

CIVIL ESTABLISHMENTS, of the Army: certain departments which, though provided for out of the army estimates, are non-military in their organization; such as those connected with the manufacture of munitions of war.

CIVILIAN: term with three meanings, distinct, though intimately related: 1. In a popular sense, it signifies a person whose pursuits are civil; i.e., not military (in England neither military nor clerical); 2. As a law-term, it means, either a person who is versed in the principles and rules in accordance with which civil rights may be freely, blamelessly, and successfully maintained in society generally, or in the particular state to which he belongs—or 3. One who has made a special study of these rules and principles as exhibited in the laws and government of Rome (the Roman civil law). The civil law of Rome exercised such influence upon the formation of the municipal systems of almost all the states of modern Europe, that those who devoted themselves to its study were regarded as 'civil' or municipal lawyers *par excellence*. From the more learned training which this study demanded, C. came often to be used as synonymous with professor or doctor of law, as distinct from practitioner of law; the former being generally more deeply versed in the Roman law than the latter; and this in its turn led to its being loosely applied to the international lawyers of the 17th c. (Grotius, Puffendorf, etc.), who generally belonged to the class of civilians in the sense of Romanists, and who, though their subject was altogether different, quoted largely and derived many analogies from the Roman jurisprudence. At present, in Great Britain, inasmuch as no class of persons prosecute law as a *science* as opposed to an *art*, the term C. has there reverted to its narrower mediæval sense of student or teacher of the Roman civil law; thus Savigny is spoken of as a C., but not Story. For the special sense of C. in England, see **ECCLESIASTICAL COURTS**: also **ADMIRALTY COURTS**.—In the United States the word seldom has a fixed technical meaning; it usually denotes one engaged in the ordinary pursuits of civil life.

CIVILIZATION [see **CIVIC**]: general term designating the condition of the more advanced nations, as contrasted with those that are looked upon as barbarians or savages. We term the leading nations of Europe civilized; the Chinese and Tatars less so; the Red Indians, Australians, Esquimaux, least of all. 'Whatever be the characteristics of what we call savage life, the contrary of these, or the qualities which society puts on as it throws off these, constitute civilization. Thus, a savage tribe consists of a handful of individuals, wandering or thinly scattered over a vast tract

CIVILIZATION.

of country; a dense population, therefore, dwelling in fixed habitations, and largely collected together in towns and villages, we term civilized. In savage communities, each person shifts for himself: except in war—and even then very imperfectly—we seldom see any joint operations carried on by the union of many; nor do savages, in general, find much pleasure in each other's society. Whenever, therefore, we find human beings acting together for common purposes in large bodies, and enjoying the pleasures of social intercourse, we term them civilized.' And so of other characteristics. *Dissertations* by J. S. Mill, art. 'Civilization.'

When we seek an exact definition of the term C., we meet a variety of views implying a certain complication in the subject. The original derivation of the word points to that polish of manners that distinguishes the inhabitants of cities [Lat. *cives*] from the rustic population; but the use of the word has greatly outgrown this limitation. Guizot has given a definition which has become generally known, to the effect that we are to include in C. the improvement of man both socially and in his individual capacity. But there is difficulty in settling what is *improvement*. That people are far from agreed on this point is evident from the use of the phrase 'vices of civilization.' How are we to distinguish its vices from its virtues? Moreover, this definition is inadequate, because instead of defining C., it only states one of the things which C. includes.

An exact and exhaustive definition of C. might require a volume or a library. Definitions may be as various as the different standards which are accepted as decisive by differing minds. Scarcely can more be sought in a brief statement than a general indication of the principle at the root of C., and of some of the chief aids by which it is advanced.

C. may be defined as the harmonious development of men in all their social relations in the community, resulting from a profound inner harmony established in each man's individual character. Its root—its principle of life—must thus be moral and spiritual; otherwise man becomes but a knowing, graceful, well-trained animal; yet its growth, and bloom, and fruit are necessarily produced in the various spheres of man's intellectual, esthetic, and even material and animal life. The moral and spiritual forces that do not develop themselves into these spheres may have certain good results, but *civilization* is not one of these results. In proportion as this harmonious human life of individuals has strength to pervade all the departments of man's social relations, in that proportion C. exists. And, when established thus, C. reacts to heighten individual character and attainment.

C. is aided by natural advantages, such as those of soil and climate, and of good mental and bodily constitution, and of dexterity and skill; but these cannot make C. For a nation in savagery, it has been well said that 'the permanent changes in the condition and arrangements of man's life effected by his own intelligence and exertions' guided by good will, 'make up human civilization.'

CIVIL LAW—CIVIL LIST.

Prominent results of C., which are also in turn causes of its advance, are the following: *Morality involving good-will*, ultimately dependent on *Religion*, so that for a right morality there must be the right religion; *Government*, securing public order by means of individual liberty; *Education*, the systematic training of the human faculties, diffused through the community; *Industrial Arts*, turning to advantage material resources; *Social Communication*, abundant and swift conveyance for thought in order that mind may quicken mind, and for men in order that selfish isolation may be precluded and all interests be interwoven into a commonwealth; *Science*, indispensable to some of the foregoing, and a universal help; *Literature and the Fine Arts*, tending to refine and exalt the sentiments; *Polished manners*, the trained and systematized gestures of the *good-will* first spoken of, so that thus good-will both stands at the root and appears as the fruit of civilization. See works on the History of C. by Guizot, Draper, Buckle; and on the anthropological side, Lubbock's *Origin of Civilization*, and Mr. Tylor's works.

CIVIL LAW: see **LAW.**

CIVIL LIST: in England, revenue assigned distinctly to the sovereign, for support of the royal household and for maintaining the honor and dignity of the king or queen. Until the period of the restoration in 1660, notwithstanding an attempt at negotiation between James I. and the parliament for the commutation of the hereditary revenues of the crown, the whole expenses of the government of England, civil and military, were included in one list, or rather they were defrayed out of what was called the royal revenue. This revenue arose partly from crown-lands, and partly from other sources, and for a long period after the Conquest was really at the disposal of the crown. Even after the supplies were provided by parliament, the specific mode of their expenditure continued free from parliamentary control. But at the Restoration a distinction was made (by statute 12 Charles II.) between the extraordinary expenses occasioned by war, and the ordinary cost of the civil establishments of the country. During the reign of William III., the C. L. amounted to £680,000 annually. The branches of expenditure included under this head were the following: 1. The royal household; 2. The privy purse; 3. The royal palaces; 4. The salaries of the chancellor, judges, great officers of state, and ambassadors; 5. The incomes given to the other members of the royal family; 6. The secret-service-money, pensions, and other irregular claims. The support of the army and navy was now provided for by an annual vote of the house of commons, and the interest of the national debt was never charged against the civil list. On the accession of George I., the C. L. was raised to £700,000 a year, and on that of George II., to £800,000. From this time there was repeated incurring of debt, and need of additional supplies from parliament, sometimes to the amount of £1,000,000. In 1812, the C. L. revenue was raised to \$1,080,000, besides annuities.

CIVIL LIST.

to members of the royal family, now paid out of the consolidated fund (q.v.) to the amount of £260,000. As the result of a motion for a select committee to separate the proper expenses of the crown from all other charges, 1830, Nov. 15, the sum of £510,000 was granted to his majesty, and exclusively devoted to the privy purse, the salaries and expenses of the household, secret-service money and pensions.

On the accession of Queen Victoria, the C. L. which had long been of the nature of a compact between the monarch and the parliament, and as such beyond the control of parliament during the life of the sovereign, was settled by 1 and 2 Vict. c. 2. The queen surrendered the hereditary revenues of the crown for life, in consideration of a yearly sum of £385,000, to be devoted solely to the support of her Majesty's household, and the honor and dignity of the crown. The application of this sum to the particular branches of the queen's privy purse, the salaries and expenses of the household, the royal bounty, alms and special services, is intrusted to the lords of the treasury; and it is provided that if the C. L. charges in any one year shall exceed the total sum of £400,000, an account of the particulars of excess shall be laid before parliament in thirty days. Besides the above sum, £1,200 a year is intrusted to her majesty for the payment of pensions, 'to persons who have just claims on the royal beneficence, or who, by their personal services to the crown, by the performance of duties to the public, or by their useful discoveries in science, and attainments in literature and the arts, have merited the gracious consideration of their sovereign and the gratitude of their country.'

CIVIL SERVICE.

CIVIL SERVICE: body of persons other than naval or military, in pay of the state; also the duty or work rendered by such persons.

BRITISH CIVIL SERVICE.—At the head of the British C. S., which numbers above 50,000 officials of all grades, are placed the officers of the royal household, under several departments. Then the officers of the house of lords and the house of commons. Then a vast number of offices or departments, of which the following are most important: treasury, home office, foreign office, colonial office, India office, war office, admiralty, board of trade, post-office, customs, inland revenue (including stamps, taxes, and excise), exchequer and audit office, office of wood and forests, office of works and buildings, duchy of Lancaster, public record office, local government board, education department, civil-service commission, registrar-general's office, stationery office, ecclesiastical commission, charity commission, patent office, emigration office, Trinity house, Heralds' College, law and equity courts, ecclesiastical and admiralty courts, prisons department, British Museum, science and art department, diplomatic and consular corps. Several departments peculiar to Scotland and Ireland form distinct lists, not included in the above.

The heads of most of the departments are political officers, changing with the ministry. Others, such as the head of the exchequer and audit department, or the commissioners of customs and of inland revenue, are permanent officials. Excluding the judicial offices, and a few departments where special knowledge is required, the C. S. is open to the public generally, the principle of open competition being in force as regards most of the departments.

In former times appointments to the govt. offices were obtained mostly by favor; but now, merit and abilities are conditions superadded. By an order in council, 1855, May 21, the system was placed on a new basis, and a commission was appointed to examine all candidates for the service. A candidate being *nominated*, the commissioners in due time notified that he must come up to be examined, and produce certificates of birth, health, and character. The heads of the several departments agree with the commissioners as to the extent and nature of the subjects on which candidates should be examined. The commissioners neither nominate nor appoint; they only examine, and notify the result of the examination.

By an order in council, 1870, June 4, the regulations were altered, the rule of open and unrestricted competition being then introduced, qualified by some exceptions. In certain small and special offices, nomination with subsequent success at an examination remained the rule of entry. But for all the principal departments—the foreign office being the only prominent exception—there is open competition, to which all British subjects of the required age and of good health and character, are admissible. For offices of the superior grade, the age is from 18 to 24, and in the lower division the age is from 17 to 20. Boy clerks must be over 15 and under 17. Any successful candidate

CIVIL SERVICE.

remaining on the list without obtaining an appointment, is struck off at the age of 25. Boy clerks who at 19 fail to obtain appointments as man clerks also are struck off. The first open competition held was 1871, Feb. 22, when 30 situations in the excise were competed for by a large number of candidates. A further change was made by the introduction of 'writers'—a species of 'uncovenanted' clerks, who were paid by the hour, were dismissible at pleasure, and had no claim to pension. Writers were first introduced, and 'boy clerks' sanctioned in 1870.

These various changes (tending in the opinion of the service to lower the status of the officers) together with the increased cost of living resulted in great agitation throughout the C. S., and in appointing a commission under Dr. Lyon Playfair, to reconsider the whole system of C. S. organization and pay. Following on reports from this commission, considerable changes were made. The decision that the lower grade should have no claim to rise above £200 a year, or to obtain promotion into the higher grade, and the introduction of 'duty-pay' as a means of rewarding special responsibilities, were among the chief alterations. The Playfair commission reported against the employment of temporary writers; and that class of employés ceased to be appointed after the issue of the order in council 1876, Feb. 12, though a small class of temporary 'copyists' is still maintained. A lower division of the C. S. also was constituted at a reduced rate of salaries, consisting of men and boy clerks to serve in any department of the state to which they may from time to time be appointed. The commutation of pensions for a gross sum is allowed when these have been granted on abolition or reorganization of office. The rate of pension is one-sixtieth of pay for each year's service.

The order in council, 1876, Feb. 12, introduced important changes as regards the lower division of civil-service clerks. The subjects of examination for this class remaining what they had been, the minimum age of candidates was raised from 16 to 17 years (provision being made, however, for the appointment—by competition in a more limited number of subjects—of boy-clerks between 15 and 17 years of age). Successful candidates were deprived of the right to choose out of the places vacant the office to which they should be appointed, and were made liable to serve in any office to which, not merely at first, but from time to time, the civil service commissioners should appoint them. Under this order, moreover, the number of persons selected at each examination is to exceed the number of places at the time vacant by 10 per cent. And while appointments are to be given, as a rule, in the order of a list made out according to merit, as shown in the examinations, that order may be departed from, if the needs of particular offices seem so to require; and provision is made, that if a candidate remain unplaced at 25 years of age, his name shall be struck off the list. The order has raised the period of probation after appointment from six months to a year; but the civil service commissioners may give a trial in another office to a candi-

CIVIL SERVICE.

date rejected after probation. The order further prescribed, having in view that the lower division should be strictly confined to duties more or less mechanical, that the salaries of the clerks should rise from a minimum of £80, by a triennial increment of £15, to a maximum of £200 a year—extra pay, not to exceed £100, being, however, provided for cases of special merit; and that promotion from the lower to the higher division should take place only exceptionally, on the special recommendation of the head of a department, with the assent of the treasury, and on a special certificate granted by the civil-service commissioners. Substantially, this order carried out the recommendations of a treasury commission presided over by Mr. Lyon Playfair. These recommendations on appointing to clerkships of the higher division have not yet been adopted except in one or two smaller matters. They involved even a more considerable departure from the principle of the system introduced in 1870 than has been made in the case of the lower division. The commission advised that there should be a preliminary test examination open to persons above 17 years of age, and a subsequent examination (also a test rather than a competitive examination) open to persons between 18 and 23 years of age, in a certain number of subjects selected by each candidate from a list of subjects prepared by the civil-service commissioners in consultation with the heads of departments. All candidates who showed a certain proficiency in the subjects chosen by them would be put on a list made out in alphabetical order, and be eligible for, though having no claim to, appointment to the higher division. Appointments would be made from the list of persons eligible by the heads of departments—the candidates getting the right to refuse places offered to them, without forfeiting their eligibility. This scheme, as the commission allowed, would involve a partial return to patronage. The proposal accompanying those recommendations has been acted on, namely, that every member of the higher division should be allowed to rise (from a minimum of £100) to a maximum of £400 a year, and that extra pay, not to exceed £200 a year, should be awarded in cases of special merit.

The civil-service commissioners have under their charge the examinations also for the civil service of India (q.v.); for the selection of persons to be trained for service in the India Forest Department; and for admission to the Indian Civil Engineering College, in all of which the system of open competition prevails.

Competitive examinations for admission to the military service are held three times a year, also under direction of the civil service commissioners. The examinations are open to all youths between 17 and 20 years of age who can pass a prescribed preliminary examination.

For the more important departments of the C. S., see their respective titles: for the Indian civil service, see INDIA, BRITISH.

British civil-service estimates include all expenses of the state not provided for in the army and navy estimates. As an example of these, the amounts following were voted

CIVIL SERVICE.

under their various heads for the financial year 1891,
Apr. 1—1892, Mar. 31:

Public works and buildings	£2,088,712
Salaries and expenses of public departments.....	297,161
Law and justice	4,393,877
Education, science, and art	6,248,990
Colonial and consular services	651,353
Superannuation and retired allowances and gratuities ..	646,353
Miscellaneous and special.....	189,912
	<hr/> £16,516,029

CIVIL SERVICE IN THE UNITED STATES.—From small beginnings the civil service of the United States has grown till it has reached the number of more than 100,000 persons employed; and that of each state government has had a corresponding increase. The presence of so vast a body of officials under a democratic system has led to many abuses, and suggested problems among the most important for the body of American citizens. Although elected executive and judicial officials and the appointed officers of legislative bodies are included in the general term civil service, yet it has been applied mostly to appointed officials of the executive department. The constitution of 1787 provided that the president should nominate, and, by and with the advice and consent of the senate, should appoint ambassadors, other public ministers and consuls, judges of the supreme court, and all other officers of the United States, whose appointments were not otherwise provided for in other sections of the document; but congress might vest the appointment of such inferior officers as they might think proper in the president alone, in the courts of law, or in the heads of departments. Taken in connection with the action of the first congress in deciding that the power of removal of officers should belong to the president alone, without need of the concurrence of the senate, these provisions put in the hands of the chief executive and his principal advisers a vast body of patronage, which might be used to reward political services, and in various ways turned to the advantage of parties, or factions, or personal ambitions rather than of the country.

At first the civil service of the United States was managed with little abuse. That of New York and of Pennsylvania, however, early became the prey of designing and adroit politicians, who made it an engine of political management and partisan success. Something of such practice was introduced into the federal government by Mr. Jefferson, but the time at which the infection most fully reached that government, was in the administration of Gen. Jackson. He and the politicians who surrounded him inaugurated that policy of sweeping removals for partisan reasons and of appointments used as rewards, which is called the ‘spoils system.’ The name is derived from a phrase in a speech of Senator Marcy, 1832, in which, speaking of the politicians of his day, especially those of New York, he said, ‘they see nothing wrong in the rule that to the victor belong the spoils of the enemy.’ From that time this system became a regular part of the operations of

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the government, whichever party controlled it; the result was often a complete disregard of the principle that 'public office is a public trust,' wide departures from business-like management of public affairs, and great corruption of American politics.

Attention being awakened, in 1853 and 1855 pass-examinations for entrance into the service of the departments at Washington were instituted; but this had little remedial effect. In 1871 congress, at the instance of Pres. Grant, authorized the president to establish a system of competitive examinations, and to appoint a civil-service commission to supervise the system. After two years, however, congress refused to continue the necessary appropriations. In 1883, Jan. 16, congress passed 'An act to regulate and improve the civil service of the United States,' generally known as the Civil-Service Act. The provisions of this act apply to only a portion of the federal civil service, the portion, namely, which is called the 'classified service.' They do not apply to any elected officer, to any laborer, nor, unless specially extended, to any officer of such position as to be subject to confirmation of appointment by the senate. Altogether, some 15,000 or 16,000 places are under its regulations. These fall mostly into three classes, those in the executive departments at Washington, numbering in all some 6,000; those in the customs service, about 3,000; and those in the postal service, about 6,000. The act is made applicable to every customs office or post-office which has, or shall attain to, a force of 50 or more officials. In general, it is the employés receiving salaries between \$800 and \$2,000 who are included under its operation. Of those not included, the majority consists of postmasters of the fourth and fifth classes. The spirit and purport of the act have been understood, and officially declared, to be against appointment to, or discharge from, the public service on mere political grounds; though it was conceded that efficiency of administration required that certain prominent officials—a very small proportion of the whole number—should be in political accord with the party which the popular vote had called to conduct the government.

The act authorizes the president to appoint three civil-service commissioners, at a salary of \$3,500 and travelling expenses, whose duty it shall be to prepare rules and regulations under the act, to supervise examinations under them, to investigate and report concerning their enforcement. The commission has a chief examiner, a secretary, and other officers. In Washington, and at other places where examinations are to be held, a number of officials selected by the commission form in each case a board of examiners. These boards hold competitive examinations, free to all, for entrance into the classified service, and appointments and promotions can be made only from among those who have passed these examinations, except that a preference is to be shown in the case of men honorably discharged from the army and navy. Appointments are to be apportioned among the states and territories according to population, and are accompanied by a period of probation. Polit

CIVITA CASTELLANA—CIVITA SAN-ANGELO.

ical assessments exacted from office-holders by members of congress or office-holders are forbidden, habitual drunkards are excluded, and penalties are provided for violations of the act. Under this act, the commission has organized boards of examiners and held frequent examinations of a practical character. There are two grades of examination for clerkships—the general examinations and the limited examinations, the latter being of lower grade. These qualify for clerkships in any department; there are also special and supplementary examinations for positions requiring special training or acquirements. Except in the case of honorably-discharged soldiers and sailors applicants must not be younger than 18 nor older than 45 (in the classified postal service, 35). On request from an appointing officer, the commission or examining board certifies to him four names from those graded highest in the examination, and he appoints one of the four, for six months' probation. Records of each case are kept. In 1887 the practice of making *promotions* on examination, with due regard to efficiency already shown, was adopted in the war department.

In 1884, New York passed a civil-service act, providing similar safeguards respecting appointments of officials of the state and of the cities. In the same year Massachusetts adopted the ‘merit system,’ likewise providing certain practical tests in the case even of laborers. In N. Y. over 15,000 places are included under the operations of the act; in Mass. nearly 6,000.

While the attempted reform cannot, especially in the U. S. civil service, be yet deemed successful, it is a hopeful sign that public attention has been called to the subject.

CIVITA CASTELLANA, *chē-vē-tā kás-těl-lā'nā*: town of central Italy, about 30 m. n.e. of Rome, on a plateau of volcanic tufa above the Rio Maggiore. It is notable for its vast number of Etruscan remains. It occupies a site of the ancient *Falerium Vetus*, one of the 12 cities of the Etruscan League; and *Falerii Novi*, of which also there are many remains, stood about 4 m. n. of C. C. Pop. of C. C. 4,500.

CIVITA DI PENNÉ, *chē-vē-tā dē pěn'nā*: town of s. Italy, province of Teramo, on a commanding hill about 20 m. s.e. of Teramo. It is an ancient place, having, under the name of *Pinna*, been the chief city of the Vestini; and some remains are still found here. The modern town, though containing some fine edifices, including the cathedral, is in general badly built. C. di P. is noted for its manufactory of silk-flowers. Pop. 4,800.

CIVITANOVA, *chē-vē-tā-nō'vā*: town of central Italy, province of Macerata, 12 m. w. of the town of Macerata. It is an industrial and commercial city, not far from the Adriatic, and has a fine harbor, much frequented. Its lands produce vines, olives, and pastureage. Pop., including the port, 7,000.

CIVITA SAN-ANGELO, *chē-vē-tā sán-án'jā-lō*: town of s. Italy, province of Teramo, near the Adriatic, about 25 m. s.e. of Teramo. It has an active trade. Pop. 3,000.

CIVITA VECCHIA—CLACKMANNAN.

CIVITA VECCHIA, *chē'vē-tā vēk'kē-ā*: Italian city, province of Rome; on the Mediterranean, lat. $42^{\circ} 4'$ n., long. $11^{\circ} 45'$ e. Its ancient name was *Centum Cellæ*. The harbor of C. V. is one of the best in Italy, and was constructed by the emperor Trajan; the town, indeed, owed its origin entirely to the port of this emperor, and hence it was known also as *Portus Trajani*. The harbor is formed by two artificial moles projecting into the sea, while a third, constructed between the two, serves to protect the harbor from the heavy sea; upon this third and outward mole there is a good light-house, some 80 ft. above the sea. Within the port there is a small dock and an arsenal. The town of C. V. is small, and has no buildings of any note except a large church in the principal street. The streets are ill paved and narrow, and the inhabitants poor. It is a free port, and is regularly visited by steam-packets from Marseilles, Leghorn, Naples, Genoa, Messina, and Malta; while the majority of travellers visiting Rome land here. It is famous among the modern Italians for its oysters, which are extremely small, but delicious to the taste. Pop. about 13,000.

CIVITELLA DEL TRONTO, *chē-vē-tēl'lā dēl tron'to*: town of s. Italy, province of Teramo, 10 m. n. of Teramo. It is on a rock, and is fortified and defended by a strong castle. C. del T. is historically interesting as the place where, 1053, Robert Guiscard and his Normans gained a complete victory over the forces of Pope Leo IX., and the emperor Henry III. of Germany; and also for the siege it sustained in 1557 against the French and papal army under the Duke of Guise, who was finally forced to retreat.

CLABBER, n. *kläb'bér*: milk which has become curdled; called also *Bonny-clabber*.

CLACHAN, n. *kläk'än* [Gael. *clachan*, a circle of stones, stones]: in *Scot.*, properly a village in which there is a church or place of worship; a hamlet.

CLACK, v. *kläk* [F. *claquer*, to flap or clap: Icel. *klak*, a certain noise of the domestic fowl; *klaka*, to twitter as a swallow: Dut. *klak*, a crack; *klacken*, to strike, to smack]: to make a sharp noise suddenly; to talk incessantly: N. a sharp continued noise; the valve of a pump-piston; one of the valves in a locomotive or other steam-engine. CLACK'ER, n. one who or that which clacks. CLACK'ING, imp. CLACKED, pp. *kläkt*. CLACK-DISH, the beggar's dish or box with a lid, which they formerly rattled in order to attract attention.

CLACKMANNAN, *kläk-män'nan*: county town of Clackmannanshire, in the s. part of the county, on the Devon, near its confluence with the Forth, 9 m. e. of Stirling. It lies on ground rising 190 ft. above the rich carse-land of the plain of the Forth, which is rich also in coal, iron, and limestone. C. was formerly a royal burgh, and is mentioned as such in the acts of parliament of James V. 1540 and '43. From a bull of Pope Celestine III., 1195, it appears that at this early date the church and its chapels, with 40 acres of land, be-

CLACKMANNANSHIRE.

longed to the Abbey of Cambuskenneth. In 1330, King David Bruce resided at Clackmannan. In 1358-9, King David II. confirmed to Sir Robert de Bruce the castle and barony of C., with the lands of Kennet and others; and from that period to the present, the Bruces have been proprietors in this parish. Pop. about 2,000.

CLACKMANNANSHIRE, *klăk-mănn'nan-shér*: smallest county of Scotland, bounded n. and w. by Perthshire and the Ochil Hills; e. by Perthshire and Fifeshire; s. by the Forth, separating it from Stirlingshire. Its greatest length is 10 m.; area, 48 sq. m. It consists chiefly of the valley of the North Devon, gently declining from the green Ochil Hills to the Forth. The Ochils consist of trap, especially amygdaloid, claystone, porphyry, and greenstone, and rise in Beneleugh (properly, Benclach), 2,352 ft., and Dunmyat, or Demyat, 1,345. A ridge of high ground, with inferior soil, often resting on clay, runs w. through the middle of C., between the very fertile alluvial lands resting on the coal-measures in the s., and the North Devon valley in the n., where the soil is loamy, and rest on gravel, and also on the coal-measures, which extend to the base of the Oehils. The chief minerals are ironstone, sandstone, green-stone, coal, limestone, silver, copper, antimony. The chief rivers are the North Devon rising in the s. of Perthshire, and the Black Devon rising in the s.w. of Fifeshire; both run w. across C. into the Forth. The river Forth is navigable for vessels of 500 tons up to Alloa, at which port ships of 700 tons register have been built. The chief crops are wheat, barley, and oats. The number of acres in C., under all kinds of crops, bare fallow, and grass, in 1881, was 15,758; under corn crops, 5,899; under green crops, 1,463; clover, sanfoin, and grasses in rotation, 3,569; permanent pasture and meadow land, 4,546. The 'Hillfoots' have long been celebrated for their woolen manufactures, chiefly in Tartan shawls and plaids, and have become favorably known in the production of tweeds. The district is famed likewise for its ale, there being seven breweries in the county. There are also extensive distilleries. There are manufactures of green-glass bottles, earthenware, bricks and tiles, also timber trade and ship-building. The chief exports are iron and coal. The columnar greenstone of Abbey Craig, near Stirling, has come into use for grinding flour, which it does nearly as well as the French burr-stones. C. contains four parishes. The chief towns are Clackmannan, the county town; Alloa, the most important place; and Dollar, noted for its endowed educational establishment. C., with Kinross-shire, returns one member to parliament; but the county occupies the anomalous position of having parishes within its circumference politically—Alva in Stirlingshire, and Tulliallan and Culross in Perthshire—which it does not embrace judicially. In C. have been found Roman stone coffins, sepulchral vases, and old Roman coins. The Marquis of Montrose, 1645, burned Castle Campbell, now a noble ruin situated on a wild but easily accessible eminence, on the brow of a hill immediately behind Dollar. In C., George Meikle constructed,

CLAD—CLAIM.

1787, the first effective thrashing-machine in Scotland. Pop. (1871) 23,747; (1881) 25,680; (1901) 32,029.

CLAD, v. *klăd* [see CLOTH]. CLAD, applied to sheep that have not been shorn.

CLADANTHI, n. plu. *klū-dăñ'thī* [Gr. *klados*, a tender branch, a twig; *anthos*, a flower]: in bot., flowers which terminate a lateral branch in mosses.

CLADENCHYMA, n. plu. *klū-dĕñ'kī-mă* [Gr. *klados*, a tender branch; *eng chuma*, an infusion]: in bot., tissue composed of branching cells, as in some hairs.

CLADIUM, *klū'diūm* [Gr. *clados*, a branch or twig]: genus of plants of the nat. ord. *Cyperaceæ*, of which one species, *C. Mariscus* is a native of Britain, particularly common in the bogs and fens of Cambridgeshire, where hundreds of acres are almost entirely covered with it. It is 3–5 ft. high, with a rounded, leafy stem, the keel and margins of the leaves rough and almost prickly. It is consequently hurtful to cattle. It is used for thatching, and in Cambridgeshire also for lighting fires.

CLAFLIN, MARY BUCKLIN: an American prose-writer; 1825, July–1896, June 13; wife of Gov. Claflin of Massachusetts; was a trustee of Boston University for 18 years and of Wellesley College from its foundation till her death. Her publications include *Brampton Sketches*; *Recollections of Whittier*; *Under the Elms*, etc.

CLAGGETT, *klāg'ĕt*, THOMAS JOHN, D.D.: 1742, Oct. 2—1816, Aug. 2; b. White's Landing, Prince George co., Md.; first bishop of the Episc. Church in Md., and the first consecrated in America. He graduated at Princeton 1762, received orders in England 1767, and was rector in Calvert co., and Anne Arundel co., retiring to his estate during the early years of the revolution. He was consecrated at New York 1792, Sep. 17, Bp. Seabury joining, thus linking the Scottish with the Anglican succession. He was chaplain to the United States senate when it first met at Washington, 1800. He died at Croom, Md.

CLAIM, v. *klām* [OF. *clamer*, or *claimer*, to cry out, to call for—from L. *clamo*, I cry out: Dan. *klemte*, to toll: Gael. *glam*, to bawl—lit., to shout out one's title or right]: to seek or demand as a right; to demand as due; to assert; to have a right or title to: N. a demand as of right; a right or title to anything; the thing claimed. CLAIM'ING, imp. CLAIM'D, pp. *klāmd*. CLAIM'ANT, n. -ănt, one who demands anything as his right. CLAIM'ABLE, a. -ă-bl. CLAMANT, a. *klā'mănt*, crying loudly; that loudly calls for immediate attention or redress. — SYN. of 'claim, n.': demand; right; pretension; privilege; prerogative.

CLAIM, in Law: assertion of a right in anything that is in the possession of another, or at least out of the claimant's possession. Claims are either verbal or by action, and relate either to lands or to goods and chattels, their object being generally to preserve a title which otherwise would be in danger of being lost.

CLAIM OF LIBERTY—CLAIMS.

CLAIM OF LIBERTY, in English Law: suit or petition to the queen in the court of exchequer, to have liberties and franchises confirmed there by the attorney-general (Tomlins' *Law Dic.*).

CLAIMS, COURT OF: tribunal for settlement of private claims against the United States. Until 1854, all private claims against the govt. of the United States had to take the form of petitions to congress. Such petitions accumulated in great numbers, and it was felt to be impossible for congress, burdened with public affairs, to give adequate attention to the investigation and adjudication of these claims. Accordingly in December of that year a bill was introduced establishing a commission for the examination and adjustment of such claims. Instead of this, an act was passed, 1855, Feb., erecting a permanent and independent court for the purpose. This court was to consist of three judges, and was in each case to report to congress its opinions, with the reasons and evidence on which they were founded. The mass of business was very great, and the practice of reference to congress resulted in a rehearing of the case by the committee on claims, and defeated the intention of economizing time. Accordingly, in 1863, two judges were added to the court, and reference to congress abolished. An appeal by either party to the supreme court was allowed in cases involving more than \$3,000, and by the defendants in other cases.

The jurisdiction of the court extends to all claims founded upon any law of congress or upon any regulation of an executive department, or upon any express or implied contract with the United States government, and to all claims which may be referred to it by either house of congress; to all counter-claims or other demands on the part of the government against any claimant; and to all claims of disbursing officers for relief from responsibility on account of losses of government property in their custody. A six-years' limitation upon claims has been imposed by statute. Aliens, whose government accords to citizens of the United States the privilege of prosecuting claims against it in its courts, may prosecute claims against the United States in this court. Congress has from time to time given the court jurisdiction, for a limited period, over particular cases or classes of cases. The number of cases against the United States in this court 1855-85 was 14,602. The amount of the claims brought before it 1867-85 was \$97,210,401, the aggregate amount recovered in that period \$21,828,845. In addition to its work in deciding cases provision was made by an act of 1883, called the 'Bowman Act,' that when any claim *or matter* is pending before either house of congress which involves the investigation and determination of facts, it may be transmitted to the court of C. for hearing; the findings of fact are then reported. The same act also authorizes the head of any executive department to transmit to the court any claim or matter involving controverted questions of fact or law, and to obtain the opinion of the court thereon. The court sits in Washington, in the same building with the department,

CLAIR—CLAIRES.

of justice; but claimants may take depositions at any other place. The defense of all claims is intrusted to the attorney-general of the United States, who assigns to that duty one of the assistant attorneys-general. The court decides all cases without a jury.

CLAIR, *klair*, St.: river of N. America, being that part of the St. Lawrence, in its largest sense, which carries into Lake St. Clair the waters of Lake Huron. It is 30 m. long, and half a mile broad, and easily navigable, its depth being 50 feet.

Lake St. Clair measures 30 m. in length by 12 in average width, and communicates at its s.w. end with Lake Erie through the Detroit river.

CLAIRAC, *klā-rāk'*: town of France, dept. of Lot-et-Garonne, on the Lot, about 16 m. n.w. of Agen. It has flour and paper mills, and considerable trade. C. is notable as the first place in the s. of France that embraced the doctrines of the Reformation, which it did in 1527, on the example of its abbot, Gerard Rouselle. It was the scene of frequent contests between Roman Catholics and Huguenots. Pop. 3,000.

CLAIRAUT, *klā-rō'*, ALEXIS CLAUDE: 1713, May 7—1765, May 17; b. Paris: mathematician. He early showed most remarkable aptitude for mathematics, and was considered worthy of admission to the Acad. of Sciences, while he was only 18 years of age. C. wrote a great number of scientific papers, but his fame now rests principally upon his *Figure of the Earth*, in which he promulgated the theorem, that the variation of gravity on the surface of the earth, regarded as an elliptic spheroid, was altogether independent of the law of density, the opposite opinion having been previously held; on his explanation of the motion of the lunar apogee, a point left unexplained by Newton; and on his computation of the time of the return of Halley's comet. He died at Paris.

CLAIRE, *klār*, SAINT, or SANTA CLARA: 1193–1253, Aug. 11: of a rich and noble family of Assisi, in the duchy of Spoleto. Attracted by the eloquence and piety of St. Francis of Assisi, she abandoned the pleasures of social life, in which she had previously indulged, and betook herself to solitude, prayer, and mystic meditation. Her religious emotions were ardent; and deeming herself specially called of God to the work, she founded an order of nuns 1212, and, after obtaining great reputation for sanctity, died at Assisi. Two years afterward she was canonized by Alexander IV.

CLAIRE, ST., NUNS OF THE ORDER OF: religious order founded by St. Claire, with the counsel and help of St. Francis of Assisi, 1212. At first, the nuns observed the rule of St. Benedict, but in 1224 the austerity of this rule was mitigated by St. Francis, and again modified by Urban IV. 1264. Those who follow the rule as modified by Urban are called *Urbanists*; the other and austerer portion of the sisterhood, *Damianists*. The order rapidly increased; and convents are numerous to the present day in Italy.

CLAIRVAUX—CLAMBER.

France, Belgium, Bavaria, Asia, and America. The nuns devote themselves chiefly to the education of the young.

CLAIRVAUX, *klär-vó*: village in the dept. of Aube, about 10 m. above Bar-sur-Aube, on the left bank of the river; notable as the site of the once famous Cistercian Abbey (*Clara Vallis*), founded 1114 by St Bernard, who presided over it till his death 1153, when he was buried in the church. Besides the original buildings, a new and splendid convent was afterward erected, and a church which was reckoned a masterpiece of architecture, but was destroyed at the restoration. There was shown in the convent a monster cask, called ‘St. Bernard’, which contained 800 tuns. The abbey, which had at one time a revenue of 120,000 livres, was suppressed at the revolution, and the extensive buildings are now used as a work-house and house of correction.

CLAIRVOYANCE, n. *klär-voy'äns* [F. *clair*, clear—from L. *clarus*, and F. *voir*, to see: L. *vidērē*]: an alleged power of seeing or being cognizant of anything not present to the eyes or other of the senses. CLAIRVOY'ANT, n. *-voy'änt*, one who claims the power of seeing or knowing what is not present to the eyes or other of the senses: see SOMNAMBULISM: HYPNOTISM.

CLAM, n. *kläm* [from *clamp*: comp. Gael. *glaim*, a large mouthful]: a kind of scallop or pecten, a bivalve shell-fish of different genera, whose furrowed valves clamp or fit closely together: see CHAMA: COCKLE: PECTEN: VENERIDÆ. The LONG CLAM is *Mya arenaria*; the ROUND CLAM is *Venus mercenaria*.

CLAM, v. *kläm* [AS. *clim* for *gelám*, clay: compare Sw. *klamp*, a block: Icel. *klambr*, a lump: Dut. *klompe*, a clod (see CLAMP)]: to clog or obstruct with glutinous matter; to be moist and slightly adhesive. CLAM'MING, imp. CLAMMED, pp. *kläm'd*. CLAMMY, a. *kläm'mi*, thick; adhesive; soft and sticky. CLAM'MINESS, n. state of being moist and sticky; tenacity in something soft.

CLAM, in Heraldry: term for an escallop or cockleshell: indicating that the bearer has been a Crusader, or has made long voyages by sea.

CLAM, BEAR'S PAW (*Hippopus maculatus*): bivalve mollusk of the South Seas, of the family *Tridacnidæ*. The shell is described as ‘perhaps the most beautiful of bivalves, whether in regard to form, texture, or color.’ It is therefore a favorite shell for ornamental purposes. It is transversely ovate, ventricose, ribbed, roughened with sealy inequalities, white, and spotted with red or purple.

CLAMANT, a.: see under CLAIM.

CLAMBER, v. *kläm'bér* [Icel. *klambra*, to pinch closely together: Ger. *klammern*, to hold fast with the hands or claws: Dut. *klamre*, to clamp, to grasp]: to mount up by catching with the hands, claws, or tendrils; to climb among obstructions or with difficulty. CLAM'BERING, imp. CLAM'BERED, pp. *-bér'd*.

CLAME—CLAN.

CLAME, v. *klām* [L. *clamo*, I call out]: in *OE.*, to call out; to name: N. a call.

CLAMOR, n. *klām'ér* [F. *clameur* — from Norm. F. *clamour*; OF. *clamor*—from L. *clāmor*, a loud noise—from *clāmūrē*, to cry out: Sw. *klammer*: Gael. *clamras*, and *glambar*, uproar, brawl]: a great noise or outcry; a popular outcry: V. to complain noisily; to talk loudly; to make importunate demands. CLAM'ORING, imp. CLAM'ORED, pp. -*érd*. CLAM'ORER, n. -*ér-ér*, one who. CLAM'OROUS, -*ō-rús*, noisy in words; boisterous. CLAM'OROUSLY, ad. -*li*. CLAM'OROUSNESS, n. the state of being loud or noisy.—SYN. of ‘clamor, n.’: cry; outcry; uproar; exclamation; acclamation; vociferation; shouting; bawling; tumult; noise.

CLAMP, n. *klämp* [Dut. *klamp*, a clamp; *klampen*, to hook things together: AS. *clam*, what holds or retains, a bandage, a clasp: Ger. *klamm*, pinching, strait]: anything that fastens or binds; a piece of iron or other metal used to fasten a corner; a large quadrangular stack of bricks arranged for burning: V. to fasten or bind with clamps; to join two pieces of board together so that the grain of the one piece crosses the grain of the other, done to preserve wood from warping. CLAMP'ING, imp. CLAMPED, pp. *klämppt*.

CLAN, n. *klän* [Gael. *clann*, children: L. *clien'tēs*, dependants]: children or descendants; a family; a tribe; a number of persons descended from one common stock under a chief. CLAN'SHIP, n. CLAN'NISH, a. -*nīsh*, united by feelings and prejudices peculiar to clans; disposed to adhere closely. CLAN'NISHLY, ad. -*li*. CLAN'NISHNESS, n. CLANS'MAN, n. one belonging to the same clan. The word clan became incorporated with the English language at least as early as the 17th c., to mean a body of men confederated together by common ancestry or any other tie, and in this sense it is used by Milton and by Dryden. It came to be applied almost exclusively to the several communities of the Scottish Highlanders, as divided from each other topographically and by distinctive surnames. The word has sometimes been applied to those great Irish septs which at one time were a sort of separate states; but these, with their characteristic forms of internal government, were completely broken down by the power of the English predominance, before the word came into familiar use in the English language. In Scotland it was used in the 16th c. to designate the freebooters of the border as well as to the Celtic tribes of the Highlands; and there were two characteristics common to both—their predatory habits, and their distribution into communities, each with a common surname. In the act of the Scottish parliament of 1587, for instance, which requires landlords to find security for the conduct of their tenants, it is provided that those ‘who have their lands lying in far highlands or borders, they making residence themselves in the inlands and their tenants and inhabitants of their lands being of clans, or dependars ou chieftains or the captains of the clans, whom

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the landlords are noways able to command, but only get their mails (or rents) of them, and no other service or obedience, shall noways be subject to this act but in manner following.' Then follow provisions for enforcing the law directly on the chieftains or captains of those clans residing in territories where the owner of the soil—generally the merely nominal owner, in terms of some useless charter—had no control. It was always the policy of the old law of Scotland to require all the Highland clans to have some respectable representative—a man of rank and substance, if possible—who should be security at court for their good conduct. Clans that could find no security were called 'broken clans,' and their members were outlaws, who might be hunted down like wild beasts. The Macgregors were a celebrated broken C. whom the law pursued for centuries with savage ingenuity. Among other inflictions, their name was proscribed, and such members of the C. as endeavored to live by peaceful industry in the Lowlands, adopted derivations from it; hence the names of Gregor, Gregory, and Gregorson, or Grierson. The clans are never treated in the old Scots acts with any respect, or otherwise than as nests of thieves and cut-throats. The following passage in the act of 1581 (c. 112), which virtually authorizes any Lowlander, injured by any member of a C., to take vengeance against all or any of his clansmen, contains a picturesque, though, for a legislative enactment, certainly a very highly colored account of the social condition of the Highland clans in the 16th c. 'The saids clans of thieves for the most part are companies of wicked men, coupled in wickedness by occasion of their surnames or near dwellings together, or through keeping society in theft or receipt of theft, not subjected to the ordinar course of justice, nor to any ane landlord that will make them answerable to the laws, but commonly dwelling on sundry men's lands against the good-will of their landlords, wherethrough true men oppressed by them can have no remeid at the hands of their masters, but for their defence are oftentimes constrained to seek redress of their skaiths of the hail clan, or such of them as they happen to apprehend. Likewise the hail clan commonly bears feud for the hurt received by any member thereof, whether by execution of laws, or order of justice, or otherwise.' The Highland clans are often carelessly spoken of as a feudal institution, but in reality their distinctive character cannot be better understood than by keeping in view some peculiarities which set them in complete contrast with the feudal institutions of Britain. All feudality has a relation to land, from the serf, bound to the soil through the free vassal who possesses it, up to the superior or feudal lord, who commands services out of it. The descent to all rights connected with it is hereditary. Among the Highlanders, on the other hand, the relation was patriarchal, and had no connection with the land, save as the common dwelling-place of the tribe. It often happened, as the acts above quoted explain, that the head of a C. and the owner, according to feudal law, of the estates occupied by it, were

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two different persons. Clans did not acknowledge the purely feudal hereditary principle, and would elevate to the chiefship a brother or an uncle in preference to the son of a deceased chief. It is a curious illustration of this, that in the rebellion of 1715, the notorious Lord Lovat, who had just returned from France, being acknowledged by the Clan Fraser as their chief, drew them away from the rebel army, to which the proprietor of the Fraser estates had endeavored to attach them, and arrayed them on the government side.

CLANDESTINE, a. *klă̄n-dĕs'tīn* [F. *clandestin*—from L. *clandestinus*, secret—from *clam*, privately: It. *clandestino*]: secret; hidden; private—applied to wrong actions. **CLANDESTINELY**, ad. *-lī*. **CLANDESTINENESS**, n. **CLANDESTINE MORTGAGE**, in England, a second mortgage of lands, already mortgaged for a valuable consideration, the first mortgage being concealed, or not discovered in writing to the second mortgagee. In such circumstances the mortgager, or person so mortgaging his lands, has, in English law, no relief, or equity of redemption, against the second mortgagee. In the United States the term C. M. is not in use.

CLANDESTINE MAR'RIAGE: marriage contracted without due observance of ecclesiastical ceremonies, even where concealment is not the chief or only object of the parties.

CLANG, n. *klă̄ng* [L. *clangō*, I sound: Ger. *klang*: Dut. *klank*, sound: Gael. *gliong*, the ring of metal]: the sharp ringing sound of metallic bodies striking together; any like sound, as clang of trumpets; in *acoustics*, the compound sound formed by a musical note, and its overtones: V. to make a sharp ringing sound by striking metallic bodies together. **CLANG'ING**, imp. **CLANGED**, pp. *klă̄ngd*. **CLANGOUR**, n. *klă̄ng'gér*, a sharp, ringing, or rattling sound.

CLANK, n. *klă̄nk* [Dut. *klank*, sound, rumor: Dan. *klang*, a ringing sound (see CLANG)]: the rattling, ringing sound of armor or of metallic bodies: V. to rattle and sound, as prisoners *clank* their chains. **CLANK'ING**, imp. **CLANKED**, pp. *klă̄nkt*.

CLAN MACDUFF', LAW OF: privilege of immunity for homicide, anciently pertaining to those who could claim kindred with Macduff, Earl of Fife, within the ninth degree. Macduff's cross stood on the march of boundary between Fife and Strathearn, above Newburgh; and any homicide possessed of the right of clanship who could reach it, and who gave nine kye (cows) and a colpindash (or young cow), was free of the slaughter committed by him). Bell's *Dictionary*.

CLAP, n. *klă̄p* [an imitative word: Icel. *klappa*, to pat, to clap the hands: Dan. *klappre*, to chatter, as the teeth with cold: Dut. *klappen*, to rattle]: a noise made by the meeting of bodies; a loud noise or a burst of sound, as of thunder; a stroke with the open hand: V. to strike quickly

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together so as to produce a sound; to strike gently with the palm of the hand; to place to or upon; to applaud by striking the palms of the hands together; to drive together; to thrust hastily; to enter upon quickly. CLAP'PING, imp. CLAPPED, pp. *kläpt*. CLAP'PER, one who, or the thing which; the tongue or striker of a bell. CLAP'TRAP, n. any trick or device to gain applause: ADJ. not genuine. To CLAP ON, to add or put on briskly. CLAPPER-CLAW, v. to beat and abuse; to scold or revile. To CLAP HANDS, in *OE.*, to plight mutual troth or vows, as lovers, by gripping bands. To CLAP TO, to put or place to quickly. To CLAP UP, to enter into inconsiderately; to complete suddenly.

CLAP, *kläp*, ROGER: 1609, Apr. 6—1691, Feb. 2; b. Salcomb, Devonshire. He emigrated, 1630, to Dorchester, Mass., was in the legislature, 1652–66, and was capt. of Castle William, Boston harbor, 1665–86. His later years were spent at Boston. His memoirs, written for his children, were published 1731, by T. Prince, and five times since, the last by the Dorchester Hist. Society.

CLAP, THOMAS: 1703, June 26—1767, Jan. 7; b. Scituate, Mass.: educator. He graduated at Harvard, 1722, was Congl. pastor at Windham, Conn., 1726–40, and rector or pres. of Yale College, 1740–65, the legislature paying his flock £53 as a compensation for the loss of their minister. At Yale he constructed the first orrery made in America, framed a new code of laws (the first book printed at New Haven, 1748) and a new charter, incorporating the ‘President and Fellows,’ procured the erection of a new college building and chapel, and in many ways promoted the interests of Yale. Engaging in controversy with Edwards and others, he met opposition, which led him to resign. He was an eminent mathematician and scientist for that day, and published a *History of Yale College* (1766) and several other books. He died at New Haven.

CLAP'-NET: ground-net much used by the bird-catchers of the s. of England, who supply the London market. It consists of two equal parts or sides, each about 12 yards long, by two yards and a half wide, and each having a slight frame. These are placed parallel to one another, fully four yards apart, and it is contrived that the pulling of a string closes them upon one another. Call-birds, either in small cages or fixed by braces, are placed about the net to decoy wild birds to the spot.

CLAPP, THEODORE: 1792, Mar. 29—1866, Apr. 17; b. Easthampton, Mass. He graduated at Yale 1814, studied theology at Andover 1818–19, and was ordained pastor of the 1st Presb. Church in New Orleans, 1822. Imbibing Universalist and Unitarian opinions, he organized the Church of the Messiah 1834. His ministrations to the sufferers from cholera, yellow fever, etc., in 20 epidemics, endeared him to the people: Judah Touro contributed largely to the maintenance of his services. He removed, 1857, to Louisville, Ky., and died there. He published *Sketches and Recollections of a 35 Years' Residence in New Orleans* (Boston, 1857), and *Theological Views* (1859).

CLAPPERTON—CLIQUE.

CLAPPERTON, *kläp'ir-ton*, HUGH 1788-1827, Apr. 13; b. Annan, county of Dumfries, Scotland: British African explorer. At the age of 17 he went to sea; and being impressed into a man-of-war he distinguished himself by his services, and was appointed lieut. In 1817, he returned to England, and afterward was appointed by govt. on an exploring expedition to the interior of Africa—returning 1825. To solve the problem of the course of the Niger, C., now holding the rank of commander, started again with others, 1825, Aug. His companions died early on the journey, excepting Richard Lander, C.'s confidential servant. Detained at Sakkatu, by the Sultan Bello, the vexation and the hardships of the journey so affected his health that he died at Changary, near Sakkatu. C. was the first European that penetrated from the Bight of Benin into the interior of Africa, and followed the course of the Niger for a great distance. *Narrative of Travels and Discoveries in Northern and Central Africa in the years 1822, 1823, and 1824, by Denham, Clapperton, and Oudney* (Lond. 1826); *Journal of a Second Expedition into the Interior of Africa*, etc. (Lond. 1829); *Records of Clapperton's Last Expedition to Africa*, by Richard Lander (Lond. 1830).

CLIQUE, n. *kläk* [F. *claque*, to clap the hands, to applaud; an imitative word]: contrivance for securing the success of a public performance or production, by bestowing upon it preconcerted applause, to give the public, a false notion of the impression that it has made. This artifice came first into operation in theatres and concert-rooms, and arose from friendly or party motives; but it is suspected of having spread into other departments of public life, not excepting even parliaments. CLAQUER, n. *kläk-ér*, one of several hired to applaud a performer, or a performance, with the usual noisy demonstrations.

It was in Paris that the clique was first organized as a trade. One Sauton, 1820, established an office for the insurance of dramatic success (*Assurance des Succès Dramatiques*). The directors or managers of a theatre send an order to the office for whatever number of 'claquers' they think necessary. If the success of a piece seems doubtful, as many sometimes as from 300 to 500 of these people are furnished with gratis tickets, and are often instructed at the rehearsals at what particular places they are specially to applaud. How minutely the art is organized, may be seen from the exact division of functions among the several claquers. The 'commissar' is bound to learn the play by heart, and call the attention of the audience about him to the various beauties of the piece; the 'rieur' must laugh at every jest; the 'pleureur' (weeper) has to manifest his sensibility at the moving passages. This last part is generally assigned to women, in whom the frequent use of the handkerchief seems most natural. The 'chatouilleur' (tickler), on the other hand, endeavors, by distributing bonbons, snuff, theatre-bills, etc., and by lively conversation, to keep his neighbors in good-humor; and lastly, the 'bisseur' calls *encore!* with the utmost enthusiasm, at the conclusion of the specified pieces of music.

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The following incident, which found its way into the newspapers on the occasion of the death of the famous French actress, Mademoiselle Rachel, shows the ludicrous seriousness with which the members of the claqué view their singular profession: Mademoiselle Rachel had just created a new character in a modern piece, and during the first evening was loudly applauded. The next, however, she thought her reception by no means so warm, and she complained of it, adding that the claqué did not do its duty. It turned out that the head of the claqué had been ill, and that his place that evening had been supplied by a *confrère* from another theatre. This individual, on hearing of the complaint that had been made, wrote to mademoiselle as follows: ‘MADEMOISELLE—I cannot remain under the obloquy of a reproach from such lips as yours! The following is an authentic statement of what really took place. At the first representation, I led the attack in person not less than thirty-three times. We had three acclamations, four hilarities, two thrilling movements, four renewals of applause, and two indefinite explosions. In fact, to such an extent did we carry our applause that the occupants of the stalls were scandalized, and cried out, “*A la porte!*” My men were positively extenuated with fatigue, and even intimated to me that they could not again go through such an evening. Seeing such to be the case, I applied for the manuscript, and, after having profoundly studied the piece, I was obliged to make up my mind for the second representation to certain curtailments in the service of my men. I, however, applied them only to MM. —, and if the *ad interim* office I hold affords me the opportunity I will make them ample amends. In such a situation as that which I have just depicted, I have only to request you to believe firmly in my profound admiration and respectful zeal; and I venture to entreat you to have some consideration for the difficulties which environ me.’

The allegation that in London and some other great cities theatrical artists and managers are obliged to seek success by such means, is strenuously denied. Although no public offices of the kind have yet been established in Germany, the artifice is extensively practiced, to the perversion of the public judgment and the detriment of art.

CLARE, *klär*: maritime county, province of Munster, Ireland; bounded n. by Galway and Galway Bay; e. and s. by the Shannon, and its expansion, Lough Derg, separating it from Tipperary, Limerick, and Kerry; w. by the Atlantic; between lat. $52^{\circ} 32'$ and $53^{\circ} 7'$ n., and long. $8^{\circ} 25'$ and $9^{\circ} 58'$ w. It is seventh in size of the Irish counties; length, 67 m.; greatest breadth, 38; average, 21; 1,294 sq. m.—more than a half being arable, and a hundredth in wood. The surface is mostly hilly, with some mountains, bog, marsh, and rugged pasture. There is an undulating plain in the centre, from n. to s. On the e., lie the Inchiquin, Slieve Baughta, and Slieve Barnagh mountains, the highest being 1,758 ft., with rich pastures between. The mountains on the w. rise in Mount Callan to 1,282 ft. In

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the s., along the rivers, are rich loamy pastures called cor-casses. The coast-line is 140 m. along the sea, and 80 along the Shannon estuary. The sea-line is high and rocky, in parts precipitous, with many isles and fantastic detached rocks. For 5 m. at Moher, the coast rises 400 ft. nearly perpendicular, and at another point 587 ft. The chief rivers are the Shannon (q.v.), and the Fergus, running s. 27 m. through the middle plain, and by an estuary five m. broad. The county has about 100 small lakes. Carboniferous limestone is a prevailing formation in the county. The s.w. third of the county forms part of the Munster coal-field, with beds of ironstone, and thin seams of coal and culm. C. has mines of lead, copper pyrites, and manganese, slate and flag quarries, a black marble quarry near Ennis, and many chalybeate springs. The soils are warm and friable on limestone, deep, rich loam on the Shannon, and cold and wet, with bogs and much timber on the coal tracts. Part of the limestone district is flooded in winter, but affords rich pasture in the summer, when the water dries up. In some places, spring-water is very scarce, and water can be procured only from the neighboring cor-casses. The climate is moist and mild, but with frequent violent gales from the Atlantic. In 1880 there were 141,302 acres under crops, chiefly oats, potatoes, wheat, barley, and turnips. The principal trade is in grain and provisions. Fine sheep and cattle are reared on the pastures. The chief manufactures are coarse linens, hosiery, flannels, and friezes. C. is divided into 11 baronies, 80 parishes, and 7 poor-law unions, with parts of 3 others. The chief towns are Ennis (county town), Kilrush, Ennistymon, and Killaloe. In 1881, C. had 32,130 pupils on the rolls of the national schools. It returns two members to parliament. C. has many cromlechs, raths, remains of abbeys, and old castles or towers, and several round towers, one at Kilrush 120 ft. high. C., till the time of Elizabeth, was called Thomond. An adventurer called Clare gave it its present name. Pop. (1841), 286,394; (1851) 212,428; (1871) 147,864, of whom 144,440 Rom. Cath., 3,027 Prot. Episc., 220 Presb.; pop. (1881) 141,457; (1901) 112,334.

CLARE COLLEGE, CAMERIDGE: founded 1326, under the name of University Hall, by Richard Badew; burned 1338, and rebuilt and endowed by Elizabeth, Countess of Clare. Chaucer calls this college 'Solere' Hall. It has a master, 8 senior, and 10 junior fellows. The 18 fellowships are open to gentlemen of the degree B.A., or a higher, without restriction as to marriage. The master is elected by the senior and junior fellows. The buildings, in the Renaissance style, are among the most pleasing in the university. Richard III., pretending to be descended from the foundress, claimed the patronage of this Hall. The chapel was built 1535, previous to which an aisle of St. Edward's Church, where the masters and fellows were anciently interred, was used for the purpose.

CLARE ISLAND: island of Ireland, belonging to the county of Mayo; in the Atlantic, at the entrance of Clew

CLAREMONT—CLARENDON.

Bay ; in length 4 m., breadth 2 m. On its n. e. extremity is a light-house 487 ft. above the sea : lat. $53^{\circ} 49' 30''$ n., long. $9^{\circ} 55' 30''$ west.

CLAREMONT, *klär'mont* : town and post-village of Sullivan co., N. H., 48 m. w. by n. from Concord, and 97 from Portsmouth. The town, settled 1762, chartered 1764, is bounded on the w. by the Connecticut river from which the village is three m. back on the Sugar river; it is on the Concord and C. railroad, and near the Vt. Central. There is abundant water power, which runs several paper, cotton, and woolen mills : many books have been printed or published here. C. is an attractive town, has three weekly papers, several churches, a library, a national bank, a savings bank, and a high school to which Paran Stevens, a native of C., bequeathed \$50,000, 1872. Pop. (1870) 4,053; (1880) 4,704; (1890) 5,565; (1900) 6,498.

CLARE'MONT : mansion or country-seat at Esher, Surrey, built by a noble family of that name. When the Princess Charlotte, heiress-apparent to the crown of England was married to Prince Leopold of Saxe-Coburg, C. was assigned as their residence ; and at the death of the princess 1817, the use of it was continued to the widower for life, with the allowance settled on him of £50,000. The prince lived here till his election as king of Belgium, after which time he only occasionally visited it. After the revolution of 1848, Feb. he placed it at the disposal of his father-in-law, ex-King Louis Philippe, who inhabited it till his death 1850, Aug. At the death of King Leopold 1865, an act was passed granting it to the queen for life, after which it was to revert to the country. The queen, 1882, March, bought the reversion of C., and it is now the residence of the Duke of Edinburgh.

CLARENCE, n. *klär'ëns* [probably from some duke of Clarence] : a four-wheeled carriage with a single seat inside and a driver's seat.

CLARENCE, DUKE OF : title sometimes assigned to a younger male member of the royal family of Britain.

CLARENCIEUX, *klär'en-si-ô* : first of the two heraldic provincial kings-of-arms, in England ; the second being Norroy (q.v.). The jurisdiction of C. extends to all England south of the Trent, that of Norroy comprehending the portion n. of that river. C. is named after the Duke of Clarence, third son of King Edward III. It is his duty to visit his province, to survey the arms of all persons bearing coat-armor within it, to register descents and marriages, and to marshal the funerals of all persons who are not under the direction of Garter. He also grants arms within his province, with the approval of the earl marshal.

CLAR'ENDON, CONSTITUTIONS OF : laws made by a parliament, rather by a general council of the nobility and prelates, at Clarendon, a village in Wiltshire, 1164, whereby King Henry II. checked the power of the church, and greatly narrowed the total exemption which the clergy had claimed from the jurisdiction of the secular magistrate.

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These famous ordinances, 16 in number, defined the limits of the patronage, as well as of the jurisdiction, of the pope in England, and provided that the crown should be entitled to interfere in the election to all vacant offices and dignities in the church. The constitutions were unanimously adopted, and Becket, the primate, reluctantly signed them, at the solicitation of his brethren. But they were at once rejected by Pope Alexander III., when sent to him for ratification, and Becket thereupon immediately retracted his consent, and imposed upon himself the severest penances for his weakness in giving it. This, and the other measures adopted by the haughty and imperious abp. to maintain the independence of his order, led to the unhappy disputes between him and the monarch, which terminated in the famous tragedy at Canterbury, commonly known as the *martyrdom* of St. Thomas-à-Becket, the canonization of the saint, and the pilgrimages to his tomb, which subsequently became an institution of the Rom. Cath. Church. Notwithstanding the personal humiliation to which Henry submitted after Becket's death, most of the provisions of the constitutions of C. continued as permanent gains to the civil power. A masterly and dispassionate appreciation of the constitutions of C. will be found in Dr. Pauli's *Geschichte v. England*; and in Prof: Stubbs's *Select Charters illustrative of English Constitutional History*, the text of the constitutions is given.

CLARENDON, *klär'en-don*, EDWARD HYDE, Earl of: English historian and statesman, 1608, Feb. 18—1674, Dec.; b. Dinton, Wiltshire; son of a private gentleman. He was educated at Oxford; studied law under his uncle, Nicholas Hyde, chief-justice of the king's bench; was a member of the long parliament, and for some time spoke and voted on the side of the popular party; but on the breaking out of the civil wars in England, he attached himself to the royal cause, and in 1642 was appointed chancellor of the exchequer, knighted, and sworn of the privy council. Accompanying Prince Charles (Charles II.) to Jersey, he remained there two years, and began his *History of the Rebellion* (London, 1702-04; continuation, with Life, 1759), and wrote the various papers which appeared in the king's name, as answers to the manifestoes of the parliament, and which far surpassed in vigor and elegance the productions against which they were directed. In 1648, May, he went to Paris, and 1649, Nov., was sent on an unsuccessful mission for assistance from the Spanish court. He afterward went to the Hague, where, 1657, Charles II. appointed him high chancellor of England. At the Restoration, he was confirmed in that office, and elected chancellor of the Univ. of Oxford. In 1660, Nov., he was created baron Hyde, and in April, following, viscount Cornbury, and earl of Clarendon. In 1663, the earl of Bristol accused him of high treason in the house of lords; and though this charge failed, public indignation was excited against him by the ill success of the war with Holland, and the sale of Dunkirk to the French. The victim also of some court intrigues, he was deprived of his offices; and

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he secretly withdrew to Calais, whence he sent his apology to the lords; but this writing was ordered, by both houses of parliament, to be burned by the common hangman. After living six years in exile, he died at Rouen, and was buried in Westminster Abbey. His daughter, Anne Hyde, became the wife, 1659, of the Duke of York, afterward James II., and was the mother of Anne and Mary, queens of Great Britain.

C. was, on the whole, both well-intentioned and wise. There can be no doubt that he loved his country sincerely, and was humanely and liberally disposed. He was too moderate for the troublous times in which he lived. Lacking enthusiasm, he failed to appreciate the position of the puritans; and, after a brief period spent in their service, he passed over to the camp of the royalists, but was never a bigoted partisan. His firmness, however, was not equal to his sagacity; hence arose the perplexities which ultimately occasioned his fall. C.'s private character was excellent, in an age when virtue was utterly unfashionable among noblemen.

CLARENDRON, GEORGE WILLIAM FREDERICK VILLIERS. Earl of: English statesman: 1800, Jan. 12—1870, June; descendant of Thomas Villiers, who, 1752, married the heiress of the last Lord Clarendon of the Hyde family, and was, 1756, made Baron Hyde, and 1776, Earl of Clarendon. Having studied at Cambridge, C. early entered the diplomatic service, and in 1833 was appointed to the then important post of ambassador at Madrid, where he acquired great influence, which he employed in establishing the government of Spain on a constitutional basis. On the death of his uncle, the third earl, without issue, 1838, he succeeded to the title, and returned to England to take his seat in the upper house. In 1840, he was appointed keeper of the great seal. When the whig ministry was broken up, 1841, he became an active member of the opposition; but warmly supported Sir Robert Peel in his measures for the abolition of the corn-laws. Under Lord John Russell's premiership, he became pres. of the board of trade, 1846, and the following year was appointed lord-lieut. of Ireland. He entered upon his duties in troublous times. The insurrectionary follies of Smith O'Brien and his coadjutors might have set the whole country in a blaze but for the prompt and decisive measures which C. adopted, which soon restored general tranquillity. At the same time, his tact and impartiality contributed to allay the exasperations of party. The severity of his proceedings against the orangemen on occasion of disturbances, 1849, was made the subject of a formal accusation in the house of lords; but C. made a convincing defense, and ministers declared their complete approval of his proceedings. When the Russell cabinet resigned, 1852, C. was replaced by the Earl of Eglinton; but on the formation of the Aberdeen ministry, he was intrusted with the seals of the foreign office. He held the same seals under Lord Palmerston, 1855–58; resumed them 1865; retired with his colleagues, 1866; and taking the same office once more, 1868, he retained it till his death.

CLARENDON PRESS—CLARION.

CLARENDON PRESS: see BOOK-TRADE (in England).

CLARENDON SPRINGS, *klär'ēn-don*: hamlet of Vt., in Clarendon township, Rutland co., on Otter creek and the West Vt. railroad, 7 m. s.s.w. of Rutland. It derives its name from a number of mineral springs whose waters are reputed to be highly efficacious in the treatment of kidney and skin diseases, and is a popular summer resort for invalids, for whose comfort a large hotel is provided.

CLARE-OBSURE, n. *klär-öb-skür'*, also written CLARO-OBSCURO, n. *klā'rō-öb-skō'rō* [L. *clārus*, clear, and *obscurus*, obscure: It. *chiaroscúro*, lights and shadows of a picture]: light and shade in painting; a design of two colors: see CHIAR-OSCURO.

CLARET, n. *klär'ēt* [F. *clairet*; OF. *claret*, a red wine, somewhat clear—from L. *clarus*, clear]: originally, wines of a light-red color; but now a general name for the red wines of Bordeaux (q.v.).

CLARETIE, JULES: a French novelist and dramatist; b. 1840, in Limoges. His principal novels include *Madeleine Bertin*; *The Million*; *Monsieur the Minister*; *Noris, Manners of the Time*; *The American Woman*; etc. He also wrote some striking chapters on contemporary history, including *The Revolution of 1870-1871*; *Paris Besieged*; etc. His dramatic work relates mostly to the Revolution.

CLARIFY, v. *klir'i-fī* [F. *clarifier*, to clarify—from L. *clarificārē*—from L. *clārus*, clear; *faciō*, I make]: to make clear; to render pure and bright. CLARIFYING, imp. CLARIFIED, pp. *-fīd*. CLARIFIER, n. *-fī-ēr*, one who; that which makes clear. CLARIFICATION, n. *-i-fī-kā'shūn*, the act of purifying or refining; process of clearing a fluid from a turbid condition, as in the case of beer (q.v.), or in the action of gelatine in fining British wines. Natural waters containing much organic matter in mechanical suspension and in chemical solution are clarified by the addition of a little alum, which is precipitated with the organic matter, and the water then becomes healthful and refreshing. Liquids often are clarified by straining through several layers of cloth; and the addition of cold water to hot coffee, etc., causes a deposit to be thrown down, which clears the solution. The use of the Clearing-Nut (q.v.) for clarifying water is general in India.

CLARION, n. *klär'i-ōn* [F. *clairon*; OF. *clarion*—from F. *clair*, clear—from mid. L. *clarionem*, a clarion—from L. *clārus*, clear: Sp. *clarin*, a trumpet: comp. Gael. *clar*, and *clarsach*, a harp], sometimes CLARIN: a trumpet with a narrow tube, more shrill in tone than the ordinary; an organ-stop of 4 ft. pitch. CLARIONET, n. *klär'i-ō-nēt'* [F. *clarinette*], also CLARINET, n.: musical wind-instrument of the reed kind, invented by Joseph Christoph Denner, Nürnberg, 1690. Its tone is produced by a thin piece of Spanish reed nicely flattened, and tied, or otherwise fixed on the mouthpiece. On the body of the instrument are holes and keys for the fingers of the performer, by which the notes are produced. In extent, fulness, and variety of tone, the clarinet is the most perfect of wind-instruments.

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Its construction, however, does not admit of every key in music being played on the same instrument, for which reason clarinets of different pitch are used in orchestral music—viz., the C clarinet, which plays all the notes as they are written; the B flat clarinet, a whole tone below the C; and the A clarinet, a minor third below the C. In military music, an E flat clarinet, a minor third above the C one, is much used.

CLARK, *klárk*, ABRAHAM: 1726, Feb. 15—1794, Sep. 15; b. Elizabethtown, N. J.: a signer of the Declaration of Independence. He was high sheriff of Essex co., ‘poor man’s counselor,’ and a person of great influence in N. J.; member of the continental congress 1776–78, 1780–83, and 1788, of the N. J. legislature 1782–87, of the convention which framed the Federal constitution 1787, and of the U. S. congress from 1791. He died of sunstroke at Rahway, N. J., where a monument was erected to his memory 1848.

CLARK, ALONZO, M.D.: 1807, Mar. 1—1887, Sep. 13; b. Vt. He graduated at Williams College 1828, and at the New York College of Physicians and Surgeons 1835, where (after holding a chair for a time in the Vt. Medical College) he was prof. of physiology and pathology, 1848–55, and of pathology and practical medicine from 1855, as well as dean and pres. of the faculty from 1875. He held a high place in professional and public esteem, and was long connected, as visiting or consulting physician, with Bellevue, St. Luke’s, and Roosevelt hospitals. He was pres. of the State Med. Assoc. 1853, and wrote much for professional journals.

CLARK, ALVAN: 1804, Mar. 8—1887, Aug. 19; b. Ashfield, Mass.: optician. After some years spent as an engraver for calico print-works at Lowell and elsewhere he opened a studio in Boston, 1835, and painted portraits of Webster and many others. He began, 1846, to make telescopes, and, aided by his sons, succeeded in producing the best in the world. He was the first American to overcome the difficulties of the achromatic lens. The firm would not seek orders, issue a price-list, nor exhibit their wares; yet four times they received and executed an order for the greatest refracting telescope then known. The first, with an 18-inch object-glass, was ordered by the Univ. of Miss., 1860, but went to Chicago. The second, 26-in., was begun 1870 for the Naval observatory at Washington; the third, 30-in., for the Pulkova observatory, Russia, 1879. The fourth, 36-in., for the Lick observatory in Cal., was made 1886–87, and cost \$50,000 unmounted. Mr. C. received an honorary A.M. from four colleges. When Dom Pedro, of Brazil, was in America, 1876, he said there were three persons in Cambridge he wished to see—Longfellow, Agassiz, and Alvan Clark. C. died at Cambridge.

CLARK, ALVAN GRAHAM: optician and astronomer; b. Fall River, Mass., 1832, July 10; son of Alvan C., the optician, with whom he was early associated in business. He made the great telescope lenses at Washington, Chicago,

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St. Petersburg, and for the Lick observatory; made the Denver 20-in. objective, and the great 40-in. lens for Chicago Univ.; became noted as the discoverer of double stars, also the first star within the trapezium of Orion, etc.

CLARK, CHARLES EDGAR: an American naval officer; b. 1843, Aug. 10; was promoted captain, 1896, and was placed in command of the battleship *Oregon* at San Francisco, Cal., 1898. As soon as war with Spain became evident he was ordered to Key West, Fla. After a remarkably rapid voyage of over 14,000 miles, he reached Cuban waters May 26, and took part in the naval battle of July 3. He was promoted rear-admiral, 1902.

CLARK, FRANCIS EDWARD, D.D.: Congregational minister: 1851, Sep. 12—_____; b. Aylmer, Quebec, Canada. He graduated at Dartmouth College, 1873; held pastorates in Portland, Me., and Boston, Mass., till 1887, when he resigned to become pres. of the United Soc. of Christian Endeavor and editor of its publications. These offices were given him in recognition of his efforts in founding the Young People's Soc. of Christian Endeavor, the first organization having been made by him 1881, Feb. 2, in Portland, Me. See CHRISTIAN ENDEAVOR, SOCIETY OF.

CLARK, Sir JAMES, Bart.: 1788, Dec.—1870, June 29; b. Cullen, Banffshire, Scotland: physician. He was educated at the grammar school of Fordyce; and at King's College, Aberdeen, where he took the degree M.A. He studied medicine at Edinburgh and London, and was a navy surgeon, 1809–15. Taking his degree M.D., Edinburgh, 1817, he, after travelling on the continent, settled at Rome, where he practiced eight years. In 1826, he removed to London, where he soon became prominent. On the accession of Queen Victoria to the throne, C., who had acted as physician to the Duchess of Kent, was appointed physician in ordinary to her majesty; and in that capacity he attended the queen on most of her journeys to Scotland and the continent. He was created a baronet, 1838.

CLARK, JONAS GILMAN: an American philanthropist; 1815, Feb. 1–1900, May 23; b. in Hubbardston, Mass.; began life as a carriage maker and acquired a large fortune; founded Clark University in Worcester, Mass., and in 1887 endowed it with \$2,000,000. He bequeathed \$200,000 to the institution, beside \$1,000,000 and the residue of his estate conditionally.

CLARK, LEWIS GAYLORD: 1810–73, Nov. 3; b. Otisco, Onondaga co., N. Y. He edited 1834–59 the New York *Knickerbocker Magazine*, once the chief literary periodical of America, and published two vols. of selections from its columns, the *Knickerbocker Sketch-Book* (1850), and *Knick-Knacks from an Editor's Table* (1852). He was a pioneer in the field of native humor, and long a friend and correspondent of Dickens. He had a post in the New York custom house for some years, and died at Piermont, N. Y.

CLARK, THOMAS MARCH, D.D., LL.D.: Protestant Episc. bishop: b. Newburyport, Mass., 1812, July 4. He gradu-

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ated at Yale 1831, studied theol. at Princeton, and preached in the Presb. church, Newburyport, 1835. The next year he was ordained deacon and priest in the Prot. Episc. church, and became rector of Grace church, Boston, remaining there till 1843. He was rector of St. Andrew's church, Philadelphia, 1843-47; then was made asst. minister of Trinity church, Boston. He assumed the rectorship of Christ church, Hartford, Conn., 1851; and was consecrated second bp. of R. I. 1854, Dec. 6. For the next 12 years he was also rector of Grace church, Providence, R. I. Besides *Lectures to Young Men* (1852), and *Primary Truths of Religion* (1869), he has published charges, sermons, and addresses.

CLARKE, *klârk*, ADAM, LL.D.: abt. 1762-1832, Aug. 26; b. in the north of Ireland: biblical commentator, in the Wesleyan Methodist connection. He studied at Kingswood, near Bristol, and at the age of 20 became a preacher or evangelist, in which capacity he did great and good work. Although the office of a Wesleyan pastor is not favorable for the development of scholarly habits, C. contrived to find time for extensive study. His first work was a *Bibliographical Dictionary* (1802). His attainments in oriental literature and biblical knowledge procured for him the degree of LL.D. from St. Andrews Univ. The board of commissioners on the public records selected him to edit Rymer's *Fœdera*. He also edited and abridged several other works, but the great work of his life was his edition of the Holy Scriptures in English, illustrated with a commentary and critical notes, into which were compressed all the results of his singularly extensive and varied reading. The first vol. appeared 1810, the eighth and last 1826.

CLARKE, EDWARD DANIEL: 1769-1822, Mar. 9; b. Willingdon, Sussex, England: traveller. He studied at Cambridge, and 1790-99 was tutor and travelling companion in several noblemen's families, and made the tour of Great Britain, France, Italy, Switzerland, and, Germany; and on one tour, 1799-1802, traversed Denmark, Norway, Sweden, Lapland, Finland, Russia, the country of the Don Cossacks, Tartary, Asia Minor, Syria, Egypt, and Greece. His donations to the Univ. of Cambridge were recognized by bestowal of the degree LL.D. In 1807, he began a course of lectures on mineralogy, and the university established a professorship of that science in his favor. He presented to the library of Cambridge valuable marbles collected during his travels; among them the colossal statue of the Eleusinian Ceres, on which he wrote a treatise 1803. England is also indebted to him for the famous sarcophagus with the inscription in three languages. On this he wrote a treatise: *The Tomb of Alexander, a Dissertation on the Sarcophagus brought from Alexandria, and now in the British Museum* (Lond. 1805). His *Travels* (first vol. 1810, fifth 1819) were received with extraordinary favor. An additional vol., containing his *Travels through Denmark, Sweden, Lapland, Norway, Finland, and Russia*, was published after his death (Lond. 1823). A complete edition of his travels appeared in 11 vols. (Lond. 1819-24).

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The Univ. of Cambridge purchased his Greek and Oriental manuscripts, among which is the famous Codex of Plato, which C. discovered in the island of Patmos.

CLARKE, or CLARK, GEORGE ROGERS: 1752, Nov. 19—1818, Feb. 13; b. near Monticello, Albemarle co., Va.: soldier and pioneer. He served under Gov. Dunmore 1774, and went 1775 to Ky., where his energy and daring were most useful during the Revolution. Obtaining powder and a commission from Va., he built a fort on Corn Island, opposite the site of Louisville, organized a force, took Kaskaskia 1778, July 4, and Vincennes 1779, Feb. 24, the latter after a terrible winter march; defeated the Shawnees on the Miami 1780 and 1782, and, by terrorizing or conciliating the Indians, secured comparative peace for Ky., and for the Union the territory n. of the Ohio. An expedition against Detroit 1781, led by C. as brig. gen., miscarried, as did one up the Wabash 1786. His great services were forgotten, and his later years spent in neglect and poverty. When Va. sent him a sword, he thrust it into the earth, broke it with his crutch, and cried, 'When Virginia needed a sword I gave her one. She sends me now a toy, when I want bread!' His grave at Louisville is marked by a small headstone bearing only his initials, and is known to very few.

CLARKE, HENRY FRANCIS, U.S.A.: 1820, Nov. 9—1887, May 10; b. Brownsville, Fayette co., Penn. He graduated at West Point 1843, and served in Texas, Mexico, Fla., and as instructor at the military acad., till 1857, when he was made capt, and sent to Utah as commissary. He was major and chief commissary to the Army of the Potomac 1861–64, and took part in its chief battles; became lieut.col. 1864, and after the war was brevetted brig. and maj. gen. He was chief of commissariat of the div. of the Missouri 1868–75, and of the div. of the Atlantic 1879–84; commissioned col. 1882, and retired 1884, Nov. 9.

CLARKE, JAMES FREEMAN, D.D.: 1810, Apr. 4—1888, June 8; b. Hanover, N. H.: Unit. clergyman. He graduated at Harvard Univ. when 19 years old, and at the Cambridge Divinity School when 23, and entered at once upon the ministry of the Unit. Church at Louisville, Ky. He remained there till 1840, in the meantime editing the *Western Messenger* three years and translating De Wette's *Theodore*. In 1841 he received a call to the Church of the Disciples, Boston, and in that pastorate he spent the remainder of his working life excepting an interval 1850–53. The form of worship in his church combined the congregational responses of the Prot. Episc. service, the extemporaneous prayers of the Congl. churches, and the silent ones of the Soc. of Friends. He was prof. of natural religion and Christian doctrine in Harvard Univ. 1867–71, lecturer on ethnic religions 1876–77, and for many years one of its overseers; trustee of the Boston public library, and member of the state board of education. His published works are very numerous and include historical and classical as well as religious

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themes. He assisted Ralph Waldo Emerson and William H. Channing in preparing *Memoirs of Margaret Fuller d'Ossoli* (Boston, 1852), and published *History of the Campaign of 1812, and Defence of General William Hull for the Surrender of Detroit* (New York, 1848); *Christian Doctrine of Forgiveness of Sin* (1852); *Christian Doctrine of Prayer* (1854); *Orthodoxy; its Truths and Errors* (1866); *Steps of Belief, or Rational Christianity maintained against Atheism, Free Religion, and Romanism* (1870); *Ten Great Religions* (1871-83); *Common Sense in Religion* (1879); *Exotics: Attempts to Domesticate Them* (1876); *Essentials and Non-essentials in Religion* (1878); *Memorial and Biographical Sketches* (1878); *Events and Epochs in Religious History* (1881); *Anti-Slavery Days in New York* (1884); *Manual of Unitarian Belief* (1884); *Every-Day Religion* (1886); and *Vexed Questions* (1886).

CLARKE, JOHN: 1609 Oct. 8—1676, Apr. 20; b. Suffolk, England: a founder of Newport and Rhode Island. At first a physician, he emigrated to Boston 1637, but found no rest there, for he sympathized with Mrs. Hutchinson and Roger Williams. With Coddington and others he purchased Aquidneck from the Indians, 1638, Mar. 24, and there at Pocasset became pastor of the second Baptist church founded in America; it was soon transferred from the n. end of the island to the s., at Newport. When the settlements were united, 1647, C. is believed to have framed the first code. Visiting Lynn, Mass., he was arrested and regretted that some one paid his fine and saved him a whipping. He went to England 1651 to obtain relief for the colony, published 1652 *Ill News from New England, or a Narrative of New England's Persecution*, and remained till he secured from Charles II., 1663, an extremely liberal charter. Returning, he resumed his charge, was sent to the R. I. assembly 1664-69, was deputy gov. 1669 and 1671, and was commissioned to revise the laws of the colony. He died at Newport, leaving his farm for charitable uses, to which it still yields a small income. Bancroft calls C. 'modest and virtuous, persevering and disinterested.' Others, slighting Roger Williams, have styled him 'Father of R. I.' and more plausibly, 'Father of American Baptists.'

CLARKE, Dr. SAMUEL: 1675, Oct. 11—1729, May 17; b. Norwich, England: theologian. He was educated at Cambridge. The system of Descartes at that time held almost universal sway; but this failing to satisfy his mind, he adopted the views of his contemporary and friend Newton. With philosophy, he studied also theology and philology. He was some time chaplain to the Bp. of Norwich, a promoter of science; he afterward became chaplain to Queen Anne, and in 1709 rector of St. James's. By his work on the Trinity (1712), in which he denied that that doctrine was held by the early church, he brought himself into considerable trouble. The convocation of bishops, who wished to avoid controversy, contented themselves with an explanation not very satisfactory, and a promise from

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C. to be silent on that subject. His views inclined toward Arianism, but he was a vigorous antagonist of the free-thinkers of his time; in opposition to Dodwell, he sought to demonstrate the immortality of the soul from the idea of an immaterial being. His most famous work is *Demonstration of the Being and Attributes of God* (Lond. 1705); connected with it in subject is his *Verity and Certitude of Natural and Revealed Religion* (Lond. 1705). At the instigation of the Princess of Wales, who was inclined to the doctrines of Leibnitz, C. entered into a keen correspondence with that philosopher on space and time, and their relations to God, on moral freedom, etc. This correspondence was published under the title of *Collection of Papers which passed between Leibnitz and Clarke in the years 1715 and 1716* (Lond. 1717). In his ethical disquisitions he seeks to find a foundation for moral obligation in a peculiar principle, which he calls the *fitness of things*, or the relations of things established from eternity by God. He published a valuable edition of Caesar (Lond. 1712); that of Homer (Lond. 1729–46) was completed by his son. A collected edition of his philosophical works appeared in 4 vols., Lond. 1738–42.

CLARKE, or CLARK, WILLIAM: 1770, Aug. 1—1838, Sep. 1; b. Va.: explorer; youngest brother of Gen. George Rogers C. Following that officer to the site of Louisville 1784, he became familiar with Indian warfare, was appointed ensign 1788, and lieut. 1792. Resigning 1796, he removed to St. Louis, was restored to the army by Pres. Jefferson 1804, and ordered to join Capt. Lewis's expedition across the Rocky Mts. Of this he was the chief director, and its success was largely due to his thorough knowledge of Indian character and habits. He again resigned 1807, and acted as Indian agent till made brig. gen. for upper La.; declined an equal post in the army, with Hull's command; and was appointed by Pres. Madison gov. of Mo. 1813–21. On the organization of Mo. as a state, he was nominated for gov. and defeated, but made by Pres. Monroe supt. of Indian affairs, a post which he held from 1822 till his death at St. Louis. His career presents a singular contrast to his brother's, not in more illustrious services but in the steady remembrance of successive administrations.

CLARKE'S FORK, or RIVER: formed in Missoula co., Montana, lat. $47^{\circ} 21'$ n., long. $114^{\circ} 38'$ w., by the junction of the Flathead river from the n. with the Bitter Root from the s. It flows n.w., and with a fall of 15 ft. empties into the Columbia in Washington Terr., lat. $48^{\circ} 50'$ n., long. $117^{\circ} 45'$ w. Pend d'Oreille Lake, 45 m. long and 15 m. wide, in n. Idaho, is an expansion of this river. Length, including either tributary, about 650 m.—The Flathead rises in British Columbia, in the Rocky Mts.; the Bitter Root in s.w. Montana, in the Big Hole Mts., receiving the waters of the Hell Gate.

CLARKSON, *klirk'son*, THOMAS: philanthropist: 1760, Mar. 28—1846, Sep. 26; b. Wisbeach, Cambridgeshire,

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England; son of a clergyman, master of the free grammar school at Wisbeach. He studied at Cambridge Univ., and was led to become the promoter of the anti-slavery agitation in Great Britain by a Latin prize-essay which he wrote 1785, on the question, ‘Is it right to make slaves of others against their will?’ An English translation had an extensive circulation, and C. resolved to devote his life to a crusade against African slavery. Associations were formed, and, besides visiting the principal towns of England, and going to Paris, in the cause, C. published numerous essays, pamphlets, and reports on the subject. Mr. Wilberforce, M.P., whose co-operation C. had secured, took the lead in the anti-slavery agitation, and in 1787 brought the subject before parliament. 1807, Mar. 25, the law for the suppression of the slave-trade passed the legislature, and C. wrote a *History of the Rise, Progress, and Accomplishment of the Abolition of the African Slave-trade*, 2 vols, 8vo, 1808. On the formation of the Anti-slavery Soc. 1823, for the abolition of slavery in the W. Indies, C. became one of its leading members, and saw its object attained 1833. He was active in other benevolent schemes, particularly in establishing institutions for seamen in seaport towns, similar to the sailors’ homes. He was in deacon’s orders in the Church of England, but showed great liking for the Society of Friends, though he never joined them.

CLARKSVILLE: city, co.-seat of Montgomery co., Tenn.; on the n. bank of the Cumberland river, and at the mouth of the Red river, 45 m. n.w. of Nashville, 199 m. from Memphis; on the Louisville and Nashville railroad. It was incorporated 1830, and partially destroyed by fire 1878. It is largely engaged in raising, manufacturing, and shipping tobacco. Rich deposits of iron ore are near. It has foundries, flour and planing mills, and manufactures of ploughs, wagons, carriages, and ice. C. is the seat of the Southwestern Presb. Univ.; and has also a girls’ acad. and several fine public buildings, banks, churches, schools, hotels, etc. It has 2 daily papers and 1 weekly, and a monthly issued by the university. Pop. (1880) 3,880; (1890) 7,924; (1900) 9,431.

CLARK UNIVERSITY: institution for advanced studies, without an undergraduate course; at Worcester, Mass.; founded by Jonas G. Clark. It has in view especially the training of specialist professors for colleges, and is indifferent to the number of its students, who thus far are few, select, and mature, compared with those of the older universities. The buildings are on high ground near the city, the campus containing eight acres. The main edifice, 204 by 114 ft., was begun 1887; a chemical laboratory, with 68 rooms, was erected 1888, in which year Prof. G. Stanley Hall, of Johns Hopkins Univ., accepted the presidency; and the institution was formally opened 1889, Oct. 2. Five depts. were organized: mathematics, physics, chemistry, biology, and psychology—the plan being to strengthen these in every way before adding others. The work is in

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pure science, i.e., not applied; the teachers and students are expected to pursue original researches; up to 1893 the univ. had published not less than 160 books and papers which aim to add to the sum of human knowledge. The math. dept. had 5 teachers, 11 fellows, 11 scholars, in 1893; that of physics, 12 in all; that of chemistry, 26 in all; biology, 20; psychology (including anthropology, neurology, ethics, philosophy, mythology, and pedagogy), 45; the pres. being chief prof. in this dept., and editor of the *Amer. Journal of Psychology*, in which much of the dept. work is published. The libraries, periodicals, illustrative material, and experimental apparatus are already very full in all departments. Experiments on memory, and anthropometric investigations, etc., have been carried on in the Worcester public schools. According to the official reports of 1901-2 there were 13 professors and 50 students; and the library contained 23,000 volumes and numerous pamphlets. The value of the grounds and buildings in 1899-1900 was \$228,146; productive funds \$722,242; and the total income was \$40,811. In the summer the students make excursions for scientific research.

CLARY, n. *klā'rī* [probably corrupted from *claret*, referring to the red tinge of the tops], (*Salvia sclarea*): plant of the same genus with sage (q.v.), native of Italy and other southern countries of Europe, long cultivated for its aromatic and other properties. It is a biennial, about 2 ft. high, with clammy stem, large, heart-shaped, rough, and doubly crenate leaves, and whorls of pale-blue flowers in loose terminal spikes, with large colored bracteæ. The seed is generally sown in spring, and the plants flower in the second year. C. is anti-spasmodic and stimulating. It has an odor resembling that of balsam of tolu, and is used for seasoning soups, and in confectionary for flavoring. Its flowers are used for making a fermented wine, esteemed for its flavor. A British species of *Salvia* (*S. Verbenaca*) is sometimes called wild clary.

CLASH, n. *klāsh* [an imitative word: Dut. *kletse*, an echoing stroke: Ger. *klatschen*, imitative of the sound produced by striking with the hand against a partition or wall: F. *glas*, noise, knell: Gr. *klazo*, I clash, as arms]: a noise made by striking one thing against another; collision; an opposition of interests; contradiction: V. to strike one thing against another; to meet in mutual collision; to meet in opposition; to interfere in interests. **CLASH'ING**, imp.: ADJ. interfering; opposite: N. a striking against in bodies; opposition. **CLASHED**, pp. *klāsh't*. **CLASH'INGLY**, ad. -*lī*. **CLASH**, v. in prov. Eng., to gossip: N. gossip; tittle-tattle.

CLASP, n. *klāsp* [OE. *clapse*, imitative of the sound of a metal fastening: Dut. *gaspe*, a clasp or buckle]: a hook for fastening, as a book or article of dress; a catch; an embrace by throwing the arms around: V. to shut or fasten with a hook; to catch and hold by twining; to hold closely in the hand; to embrace closely. **CLASP'ING**, imp. **CLASPED**, pp. *klāsp't*. **CLASP-KNIFE**, a knife with a folding blade. **CLASP'ER**, n. he who or that which.

CLASS.

CLASS, n. *klas* [F. *classe*—from L. *classem*, a class: Icel. *klasi*; Sw. and Dan. *klase*, a bunch: comp. Gael. *clas*, a play, anything arranged in a set order]: any persons or things arranged in a set position or order; a rank of persons; a number of persons in society supposed to have the same position in regard to means, rank, etc.; a number of students in a college, or pupils in a school, engaged in the same course of study; a distribution or scientific arrangement into groups of creatures or things having something in common; a kind or sort: V. to arrange; to put into sets or ranks; to distribute into groups. CLAS'SING, imp. arranging in sorts or ranks; reducing to a class. CLASSED, pp. *kläst*. CLAS'SIFY, v. -*sī-fī* [L. *classis*, a class; *faciō*, I make; F. *classifier*]: to arrange or distribute into groups or divisions; to make into classes according to something common. CLAS'SIFYING, imp. arranging in sorts or ranks. CLAS'SIFIED, pp. *fīd*. CLAS'SIFIER, n. *-fī-ēr*, one who. CLAS'SIFICA'TION, n. *-sī-fī-kā'shūn*, the act of arranging into classes, ranks, orders, families, groups, tribes, etc.; an arrangement into classes or sets. CLAS'SIFI'ABLE, a. *-fī'ā-bl*, that may be classified. CLAS'SIFICA'TORY, a. *-kā'ter-ī*, forming the basis of classification. CLASS-FELLOW, n. one at school or college attending the same class.—SYN. of 'class, n.': order; rank; degree.

CLASSIC, a. *klüs'sik*, or CLAS'SICAL, a. *-sü-kü'l* [L. *clas-sicus*, of the first rank, superior—from *classis*, a class or rank]: pertaining to authors of the highest rank; relating particularly to Roman and Greek authors of the highest rank; chaste; pure; refined. CLAS'SIC, n., a writer of the first rank; a standard book. CLAS'SICS, n. plu. *-siks*, the best anc. Greek and Roman authors; Greek and Latin literature; authorities or models of the first class. The term *classici* was originally applied to those citizens of Rome that belonged to the highest of the six classes into which Servius Tullius divided the population. As early as the 2d c. after Christ, it was applied figuratively by Gellius to writers of the highest rank, and this designation has been generally adopted in literature and art. Most nations have had at some one time a more than usual outburst of literature, and this is often styled the classical period of their literature, and its most distinguished writers their classics. But as the best productions of the writers and artists of antiquity have continued to be looked upon by moderns as models, the word ‘classics’ has come to designate, in a narrower sense, the best writers of Greece and Rome, and ‘classical’ to mean much the same as ‘ancient.’ CLASSICALLY, ad. *-lü*. CLAS'SICALITY, n. *-käl'ü-tü*. CLAS'SICALNESS, n. CLASSICISM, n. *-sü-sizm*, a classic idiom or style; a pretentious affectation of the classical character. CLASSICIST, n. *klüs'ü-sist*, one having a competent knowledge of the classics.

CLASSIS, *kläs'is* (L., class): a body in the Reformed Church of Holland, and in its American daughter, corresponding to a presbytery. It is composed of the pastors and some elders in a given district, and is intermediate between a consistory and a synod, hearing appeals from the former, while appeals from it go up to the latter. The C. ordains and deposes ministers, confirms and dissolves pastoral connections, and sends clerical and lay delegates to the local and general synods.

CLATHRATE, a. *kläth'rüt* [L. *clathri*; Gr. *klēthra*, a trellis or lattice]: in bot., latticed like a grating. CLATHRA'RIA, n. *-rä'ri-ü*, a genus of fossil cycadaceous stems, so called from the lattice-like arrangement of the leaf-scars which ornament their surface.

CLATTER, n. *klät'tér* [an imitative word: Dut. *klater*, a rattle; *klateren*, to rattle]: a rapid, rattling noise made by hard bodies when brought sharply into contact; a noise tumultuous and confused; rapid, noisy talk: V. to make a rattling noise by striking hard bodies together; to talk fast and idly; to clamor. CLAT'TERING, imp. CLAT'TERED, pp. *-térd*. CLAT'TERER, n. one who. CLAT'TERINGLY, ad. *-lü*.

CLAUDE, *klawd*, Fr. *klöd*, JEAN: 1619–87, Jan. 13; b. Sauvetat, near Agen, on the Garonne: French Prot. theologian. He was prof. of theol. at Nimes 1653–61, at Montauban 1662–66, and afterward pastor in Paris. His zeal engaged him in controversies with Bossuet and others, and caused him to be twice silenced. On the revocation of the

CLAUDE—CLAUDE LORRAINE.

Edict of Nantes, 1685, he fled to Holland, and was pensioned by the Prince of Orange. His eloquence was famous. Besides replies to Bossuet, Nouet, etc., he published *Défense de la Réformation* (1678), and *Plaintes des Protestants* (1686). He died at the Hague; lives of him were written by Nicéron and Laderize. His *Oeuvres posthumes* (Amsterdam, 1688) contain the celebrated *Traité de la Composition d'un Sermon*, translated 1778.

CLAUDE, ST. *săng klōd*: town of France, dept. of Jura, romantically situated at the confluence of the Bienne and Tacon, 25 m. s of Lons-le-Saulnier. The town originated in an abbey erected in the 5th c., which had extensive privileges, including a very oppressive one—viz., that a year's residence on the abbey-lands made a peasant a serf. Serfdom continued down to the Revolution. St. C. has a fine cathedral and manufactures of cotton and paper; and musical boxes, snuff boxes, toys, and fancy articles of horn, bone, etc., are largely made. Pop. 7,000.

CLAUDE LORRAINE, *klawd*, or *klōd*, *lor-rān'* (properly named CLAUDE GELÉE): 1600–82; b. Lorraine: landscape-painter. A relative, who travelled as a lace-dealer, took C., when a boy, to Italy, but deserted him in Rome. However, he soon found employment in grinding colors, and doing other menial services for Agostino Tassi, a landscape-painter, from whom he gained some knowledge of art. He studied next under Godfrey Waals at Naples, and, after wandering for some time through Europe, he finally settled at Rome 1627. The demand for his pictures rapidly increased, and he received numerous commissions.

C.'s landscapes are in the chief galleries of Italy, France, Spain, and Germany, and, in particular, England, which, according to Dr. Waagen, contains 54 paintings by him. Four of his best works—landscapes known as *Morning*, *Noon*, *Evening*, and *Twilight*—are in the royal gallery at St. Petersburg. The painting on which C. himself set the highest value is the *Villa Madama*. He kept it as a study, and refused to sell it, even when Pope Clement IX. offered for it as much gold coin as would cover the canvas. As C.'s paintings have always commanded very high prices many copies and imitations have been imposed on buyers. This was the case even during the artist's lifetime, for he set high prices on his works. In order to stop the fraudulent trade carried on in his name he collected the sketches of his pictures in six books, to which he gave the title *Libri Veritatis*. They are now in the library of the Duke of Devonshire.

C. was an earnest, indefatigable student of nature, and possessed great invention. No one could paint with greater beauty, brilliancy, and truth the effects of sunlight at various hours of the day, of wind on foliage, the dewy moistness of morning shadows, or the magical blending of faint and ever-fainter hues in the far horizon of an Italian sky; but it has been affirmed—especially of late—that his conception is often artificial, conventional, and positively untrue, and it must be admitted that his introduction of

CLAUDET'S FOCIMETER—CLAUDIUS.

pseudo-Greek architecture into modern scenery is in utterly bad taste. His figures are in general such inferior accessories, that he was wont to say he made no charge for them when he sold his pictures. In his private character, C. was amiable and very generous.

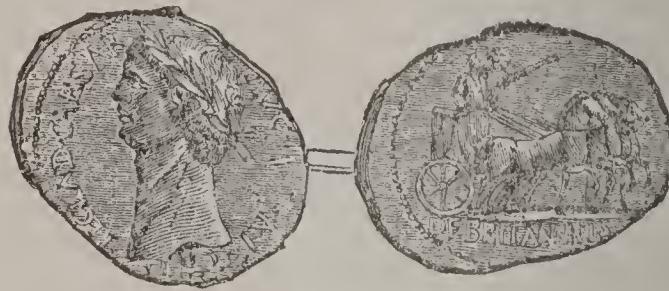
CLAUDET'S FOCIMETER, *klō-dāz' fo-sim'ē-tēr*: instrument for ascertaining the coincidence or non-coincidence of the chemical and visual foci in portrait or landscape combinations of lenses. It consists of eight fans or equal segments of a circle, arranged spirally round a horizontal axis; they are white, and numbered from one to eight, with black figures, and when in use, are so placed as to be all seen together from the lens. The method usually adopted in testing a lens is to focus with great accuracy the fan numbered 4, and take a photograph of the instrument, in which, if No. 4 be the sharpest and best defined, it is a proof of the coincidence of the chemical with the visual focus; if, however, No. 3 should be sharper, the lens has been under-corrected; if No. 5, the lens has been over-corrected; in the former case, the lens must be turned more toward the ground glass, and in the latter further from the ground glass.

CLAUDIANUS, *klau-dī-ā'nūs*, CLAUDIUS: Latin poet of Alexandria, in the end of the 4th and beginning of the 5th c. He wrote first in Greek, which appears to have been his native tongue (though he was of Roman extraction); but, as Gibbon says, he 'assumed in his mature age the familiar use and absolute command of the Latin language, soared above the heads of his feeble contemporaries; and placed himself, after an interval of 300 years, among the poets of ancient Rome.' His poems brought him into such reputation, that, at the request of the senate, the emperors Arcadius and Honorius erected a statue in honor of him in the forum of Trajan. The productions of C. that have come down to us, consist of two epic poems, *The Rape of Proserpine*, and the incomplete *Battle of the Giants*; besides panegyrics on Honorius, idylls, epigrams, and occasional poems. C. has a brilliant fancy, rich coloring, with variety and distinctness in his pictures; but is often deficient in taste and gracefulness. Editions of his works were published by Gessner (1759), Burmann (1760), and Jeep (Turin, 1875). A poor English translation was executed by Hawkins (London, 1817); and a version of the *Rape* by Dean Howard. See ROSA.

CLAUDIUS, *klau'dī-ūs*, I., TIBERIUS, Roman emperor: b.c. 10—A.D. 54; b. Lyon; youngest son of Nero Claudius Drusus, who was step-son of the emperor Augustus. He was naturally sickly and infirm, and his education was neglected, or left to be cared for by women and freedmen. His supposed imbecility saved him from the cruelty of Caligula; but C., in his privacy, had made considerable progress in the study of history, and wrote in Latin and Greek several extensive works now lost. After the assassination of Caligula, C. was found by the soldiers in a corner of the palace, where, in dread, he had concealed

CLAUDIUS.

himself. The praetorians carried him forth, proclaimed him emperor, and compelled his recognition by the senate and many citizens who had hoped to restore the republic. By his payment of the troops, who had raised him to the throne, C. gave the first example of the baneful practice which subjected Rome to a military despotism under the succeeding emperors. The first acts of his reign gave promise of mild and just government, but in the year 42, when a conspiracy against his life was detected, his timidity led him to yield himself entirely to the guidance of his infamous wife, Messalina, who, in concert with the freedmen,



Coin of Claudius, representing his British triumph.
From the British Museum.

Pallas and Narcissus, practiced cruelties and extortions without restraint. C. meanwhile lived in retirement, partly occupied in studies, and expended enormous sums in building, especially in the famous Aqua Claudia (Claudian Aqueduct). This great work occupied 30,000 laborers during 11 years. Abroad, the armies of C. were victorious. Mauritania was made a Roman province, the conquest of Britain was commenced, and some progress was made in Germany. After the execution of Messalina, another woman, equally vicious and more cruel, Agrippina (q.v.), married the emperor, and destroyed him by poison, A.D. 54, in order to secure the succession of her son Nero. After his death, C. was deified.

CLAUDIUS, MARCUS AURELIUS, surnamed **GOTHICUS**; Roman emperor: 214–270 (reigned 268–270); b. Illyria, or Dardania. By ability and valor he rose from humble station, was made a general by Decius; and by Valerian placed in command on the lower Danube. Called to Italy to crush Aureolus he was proclaimed emperor by the army on Gallienus's death, and acknowledged by the senate 268, Mar. 24. On that day he won the surname of **Germanicus** by a victory over the Alemanni. His glorious title of Gothicus commemorates the first serious check received by the most dangerous invaders of the empire: in the great battle of Naissus the Goths were totally defeated, and 50,000 killed. C. lived in an age of decadence, unfavorable to fame; but he was a great man, and the multitude (unparalleled since the ‘good emperors’) of coins struck *Divo Claudio*, after his death and deification, show the reverence felt for his character and services. He died at Sirmium of a pestilence which spread from the vanquished Goths. His short reign, and those of his successors Aurelian and Probus, whose careers were curiously similar to his, are

CLAUDIUS—CLAUSEWITZ.

among the few that redeem the 3d c. and make the throne illustrious.

CLAUDIUS, *klow'de-üs*, MATTHIAS: 1743–1815, Jan. 21; b. Rheinfeld near Lubeck: German poet. Nearly his whole life was passed in retirement at Wandsbeck, near Hamburg, where he conducted a weekly paper, the *Wandsbecker Bote (Messenger)*, 1770–75, and prepared his collected works, *Asmus omnia sua secum portans* (8 vols. 1774–1812). His muse was humorous, popular, and moral; but in later life he became a pietist, and wrote only on grave subjects. C. was intimate with Klopstock. His *Rheinweinlied* is still popular, and many of his songs have been set to music. His life was written by Herbst (Gotha, 1857), and a book on C. and Hebel by Kahle (Berlin, 1864).

CLAUDIUS CÆCUS, *klau'di-üs sē'küs*, APPIUS: B.C. 4th c.: Roman author and patrician. Without passing through the office of consul, he was elected censor, B.C. 312, placed men of low birth in the senate, held his office in defiance of custom after his colleague resigned, retained it three and a half years beyond the limit of the Æmilian law, transferred the charge of the public worship of Hercules from the Politiangens to the public slaves, and built the great road and aqueduct between Rome and Capua, named from him ‘the Appian Way.’ He resigned the censorship, B.C. 306, was elected consul 307, made interrex 298, and led the army in Samium 296, subsequently he became praetor, and was at one time dictator. He opposed with much vigor the attempts of Cineas, minister of Pyrrhus, king of Epirus, to negotiate a treaty with the Romans. He was author of a poem, mentioned by Cicero, and of a legal work, *De Usurpationibus*, and is believed to have been at least a part author of the *Legis Actiones*, published by Flavius.

CLAUDIUS CRASSUS, APPIUS: see APPIAS CLAUDIUS CRASSUS.

CLAUS, SANTA: see NICHOLAS.

CLAUSE, n. *klawz* [F. *clause*, a clause—from L. *clausa*, a period, a clause—from L. *clausus*, shut—*lit.*, a thing concluded or closed up, an inclosure]: a part shut off; a part or member of a sentence; an article in an agreement; a stipulation in a document: see DEED. CLAU'SULAR, a. *-zū-lér*, consisting of or having clauses.

CLAUSEL, *klō-zĕl*, BERTRAND: French marshal: 1772–1842; b. Mirepoix, Ariège; obtained distinction in the Italian and Austrian campaigns of Napoleon; but especially as commander in Spain, after the battle of Salamanca, 1812. Condemned to death as a traitor after the return of the Bourbons, he was permitted to return from exile to France; commanded in Algeria 1830; and was made gov.-gen. of Algeria, 1835.

CLAUS'ENBURG: see KLAUSENBURG.

CLAUSEWITZ, *klow'zĕh-vits*, KARL VON: 1780, June 1–1831, Nov.; b. at Burg: distinguished Prussian general, whose writings prepared the way for a complete revolution in the theory of war. He served with distinction in several

CLAUSTHAL—CLAVAGELLA.

campaigns in the Prussian and in the Russian service, was a staff-officer under Blücher, 1813, and in 1815 became chief of a Prussian army corps, and was ultimately director of the army school, and inspector of artillery. He died of cholera at Breslau. Of his works, the best known are his great book on war, *Vom Krieg* (3 vols.), and his life of Scharnhorst.

CLAUS'THAL: see KLAUSTHAL.

CLAUSTRAL, a. *klaw'sträl* [F. *clastral*; L.L. *laustralis*—from L. *claustrum*, a cloister—from *claudo*, I shut up, I inclose]: of or pertaining to a cloister or religious house; living in a cloister or religious house.

CLAVAGELLA, *cläv-a-gĕl'la*, or **CLUB-SHELL**: genus of lamellibranchiate mollusks of the same family with aspergillum (q.v.), of which fossil species were first known to naturalists, but existing species also have been discovered. These mollusks inhabit holes which they excavate for themselves in rocks or in masses of coral, and the ordinary form of the bivalve shell is curiously modified, one valve being fixed to the inner surface of the chamber in which the animal lives, and the other free and capable of motion on its hinge within that chamber, while the shelly substance



Clavagella Aperta:
External view of the free valve.



Clavagella Lata: Showing the Cavity and Fixed Valve.
a, the fixed valve; b, the calcareous tube; c, a cavity communicating by a tubule with that of the clavagella.
of the fixed valve is continued without interruption into a

CLAVARIA—CLAVICLE.

tube extending from the chamber outward. The young mollusk is supposed to make its way into the rock by excavating this tube, but whether its excavations are accomplished by mere mechanical means, or by the aid of some chemical solvent, is still uncertain.—Fossil *Clavagella* have not been found in any strata older than the supracretaceous group.

CLAVARIA, *klā-vā'rī-a*: genus of *Fungi* of the division *Hymenomycetes*, subdivision *Clavati*. The spores are produced equally on all parts of the surface. The species are numerous, some simple and club-shaped, some branched. *C. botrytis*, a species common in oak and beech woods in Germany, growing on the ground, among moss, grass, heath, etc., is gathered when young, and used as food, having an agreeable, sweetish taste. It ceases to be edible when old. Another German species, *C. flava*, which grows on sandy ground in fir-woods, is used in the same way. Other species appear to have similar properties, and Liebig found them to contain the saccharine substance called mannite. *C. botrytis* is the *Keulenpilz*, and *C. flava* the *Ziegenbart* (goat's beard) of the Germans.

CLAVATE, a. *klā'vāt* [L. *clava*, a club: Skr. *cūla*, a lance or club]: in bot., club-shaped; becoming gradually thicker toward the top. CLAVIFORM, a. *klā'vi-fawrm* [L. *forma*, shape]: same sense as preceding. CLAVELLOSE, a. *klāv'el-lōz*, having club-like processes.

CLAVE, v.: see under CLEAVE 1.

CLAVICLE, n. *klāv'i-kl* [F. *clavicule*, the collar-bone—from L. *clāvic'ūla*, a small key—from *clāvis*, a key]: the collar-bone—so called from its supposed resemblance to an anc. key. CLAVICULAR, a. *klā-vik'ū-lér*, pertaining to the collar-bone. CLAVIARY, n. *klā'vi-ēr'i*, in music, an index of keys. CLAVIER, n. -ēr, the key-board of an organ or piano. CLAVICHORD, n. *klā'vi-kawrd* [L. *chorda*, a chord]: a musical instrument like a small pianoforte.

CLAVICLE, or COL'LAR-BONE: a bone which, in conjunction with the scapula (q.v.) or blade-bone, forms the shoulder. As reference to the figure shows, it is placed horizontally at the upper and lateral part of the thorax, immediately above the first rib, and it articulates internally with the upper border of the sternum (q.v.) or breast-bone, and externally with the acromion process (or highest point) of the scapula.

Its chief office is to keep the shoulders well separated and steady, and to afford a fulcrum by which the muscles (the deltoid and great pectoral) are enabled to give lateral movement to the arm. Accordingly, it is absent in those animals in which the movement of the fore-limbs is only backward and forward (in one plane) for the purpose of progression, as in the Pachydermata, Ruminantia, and Solidungula; while it is present in all Quadrumana, and in those of the Rodentia, in which the anterior extremities are used for prehension as well as motion, as the rat, squirrel, and rabbit; and in the cheiroptera and insectivora, as the bat, mole, and hedgehog. In the mole it occurs in the

CLAVICORNES.

form of a cube, being very short and broad, and of extreme strength. In many of the Carnivora (the cat, for example) the C. is present in the rudimentary form of a small bone suspended (like the hyoid bone in the neck) among muscles, and not connected with either the sternum or the scapula. In birds, where great resistance is required to counteract the tendency of the enormous pectoral muscles to approximate the shoulders, the clavicles are large and united at an angle in the median line (just above the anterior end of the sternum) into a single bone, anatomically known as the 'furculum,' but popularly recognised as 'the merry-thought.' (A lateral view of the furculum is given in the figure of the skeleton of the golden eagle in the article BIRDS.) In this class of animals, additional, and even more efficient, support to the anterior extremity is afforded by the extension of the coracoid process of the scapula into a broad, thick bone called the 'coracoid bone' (q.v.), which extends to the sternum. This bone presents various modifications in reptiles and certain fishes.

In the human subject, the C. being exposed to the full force of blows or falls upon the shoulder, and not being



ab, the Clavicle.

easily dislocated (in consequence of its being well secured at both ends), is frequently broken.

Ossification takes place in the C. earlier than in any other bone, commencing as early as the 30th day after conception, according to Beclard; and at birth it is ossified in nearly its whole extent. Mr. Humphrey (*Treatise on the Human Skeleton*) suggests that the early ossification of this bone is a provision on the part of nature to prevent it from being fractured at birth in case of difficult labor.

Much important anatomical and physiological matter in connection with this bone is in Humphrey's work above cited, and in a memoir which he has recently published in the transactions of the Cambridge Philosophical Soc.; in Owen, *On the Nature of Limbs*; and in Struthers, *Osteological Memoirs*, No. 1, *The Clavicle*.

CLAVICORNES, *kläv'-i-kawornz* or *kläv-i-kawr'nēz* [L., club-horned]: great family of coleopterous insects, of the section *Pentamera*, distinguished by the club-shaped termination of the antennæ, which are longer than the maxillary palpi. Most of the beetles of this family feed on

CLAVIGERO—CLAY.

animal substances, and many of them, and particularly their larvæ, find their food in substances undergoing decay. It contains many genera, divided into groups (tribes), *Histeroides*, *Silphales*, *Dermestini*, etc. Burying beetles and the bacon beetle may be mentioned as examples of it.

CLAVIGERO, *klá-re-chá'ro*, FRANCESCO SAVERIO: abt. 1720–1793, Oct.; b. Vera Cruz: Mexican historian. He entered the order of Jesuits and was educated as an ecclesiastic. Sent as a missionary among the Indians in various parts of Mexico, he lived among them 36 years, and made himself fully acquainted with the languages, traditions, and antiquities of the aboriginal tribes. On the suppression of the Jesuits in America by Spain, 1767, C. sailed for Italy, and with others of his brethren had the town of Cesena assigned by the pope as a place of residence, where he died. He wrote in Italian a *History of Mexico*, a comprehensive and valuable work (Eng. transl. by C. Cullen, 1787, 2 vols. 4to).

CLAW, n. *klaw* [Dut. *klaufe* or *klaauw*, a ball, a claw: Icel. *kló*, a claw; *klú*, to scratch: L. *clavus*; F. *clou*, a nail]: a sharp hooked nail in the foot of a cat, bird, or other animal; the whole foot of a bird; in bot., the narrow base of some petals corresponding to the petiole of leaves: V. to tear or scratch with the nails. CLAW'ING, imp. CLAWED, pp. *klaud*: ADJ. furnished with claws. CLAW'LESS, a. destitute of claws.

CLAW, v. *klaw* [Gael. *cliù*; W. *klod*, praise, fame]: in *Scot.* and *OE.*, to praise; to flatter.

CLAY, n. *klā* [AS. *clæg*, sticky earth: Dan. *klog*, clammy, sticky: Dan. *klag*, mud]: a tenacious, tough, and plastic kind of earth; earth in general; in *Scrip.*, frailty; liability to decay: V. to cover with clay; to purify and whiten by means of clay, as sugar. CLAY'ING, imp. CLAYED, pp. *kläd*: ADJ. applied to sugar, purified by means of water percolating through a layer of clay. CLAY'EY, a. -*i*, abounding in clay. CLAY'ISH, a. -*ish*, containing clay. CLAY-MARL, -*márl*, a whitish, chalky clay. CLAY-SLATE, roofing-slate. CLAY-STONE, an earthy felspathic rock, generally of a buff or reddish-brown color.

CLAY: term applied vaguely to those kinds of earth or soil which, when moist, have a notable degree of tenacity and plasticity. The clays are not easily distinguishable as mineral species, but they all appear to owe their origin to the decomposition of other minerals, and to consist chiefly of alumina in combination with silica and with a certain amount of water: see ALUMINA: SHALE: LOAM: PIPE-CLAY: KAOLIN, etc. Common C., when, from the large proportion of alumina which it contains, it is sufficiently plastic, is of great use for making bricks (q.v.), tiles, etc.

C. is used by sculptors and others engaged in the production of works of plastic art, as a means of adjusting the form which is ultimately to be given to their work, in a harder or more enduring substance. As modelling C. is apt to crack in drying, it must be kept damp by sprinkling water over it, and covering it with a wet cloth when the artist is not engaged in his work.

CLAY.

CLAY SOILS derive their character from the alumina which they contain in a state of mixture, as well as in chemical combination with other substances. Some soils contain as large a proportion of alumina as 40 per cent., but generally the proportion is much smaller. The felspar which chiefly yields the alumina of clay soils contains, also, soda and potash, substances essential to vegetables, and which tend to render clays fertile when under cultivation. The physical characters, however, of the different varieties of clay soils arising from the varying proportions of silica, and other substances mixed with the alumnia, are chiefly concerned in their relative fertility. Calcareous matter exercises considerable influence on their powers of producing crops.

In Scotland, clay soils are chiefly found on the coal-measures, the boulder-clay, and as alluvium in the valleys. Those derived from the coal-measures are generally unkindly, being tenacious and difficult to labor. The clay soils derived from the boulder-clays also are generally coarse and inferior in quality. The richest clay soils are found along the margins of the rivers, and go under the name of *carse* clays (see CARSE). In the n. of England the aluminous shales of the coal-measures yield soils very similar in their properties to those in Scotland. England also abounds in clay soils derived from other geological formations. The chief of these are the London, plastic, weald, Gault, and blue lias clays. The stubborn character of many of them is such that they are not suitable for tillage, but form excellent meadows and pastures. In the dry climate of Suffolk, strong clays are cultivated with great success on the four-course shift—1. Seeds; 2. Wheat; 3. Fallow or Roots; 4. Barley. Thorough drainage has greatly increased the value of clay soils under cultivation. Being so much sooner dry in spring, a longer period is obtained for preparing the land for putting in the crops.

Clay Products.—In the year 1901 the total clay products of the United States were valued at \$110,211,587. These included common brick, \$45,503,076; front brick, \$4,709,737; vitrified paving brick, \$5,484,134; fancy brick, \$372,131; enameled brick, \$463,709; fire brick, \$9,870,421; stove linings, \$423,371; drain tile, \$3,143,001; sewer pipe, \$6,736,969; ornamental terra-cotta, \$3,367,982; fire proofing, \$1,860,269; tile (not drain) \$2,867,659; miscellaneous, \$2,945,268; and pottery, \$22,463,860.

CLAY, CASSIUS MARCELLUS: politician: b. Madison co., Ky., 1810, Oct. 19; son of Gen. Green C. He graduated at Yale College 1832; became an abolitionist; was admitted to the bar and practiced in his native co.; elected to the legislature 1835, 37, and 40; opposed the annexation of Tex.; started *The True American*, a strong anti-slavery paper, in Lexington 1845; supported Henry Clay for pres.; served in the Mexican war; carried Ky. for Gen. Taylor 1848; supported Fremont 1856, and Lincoln 1860; was minister to Russia 1862-69; encouraged the Cuban revolution 1870; attacked Pres. Grant's administration; and supported Greeley 1872, Tilden 1876, and Blaine 1884.

CLAY.

CLAY, *kli*, HENRY: 1777, Apr. 12—1852, June 29; b 'The Slashes,' Hanover co., Va.: statesman and orator. He was the fifth of seven children of a Baptist preacher, who died when C. was four years of age. At fourteen he entered a store in Richmond, and a year later the office of the clerk of chancery: here he attracted the notice and favor of Chancellor Wythe, whose aid and advice benefited him greatly. After studying law under Robert Brooke, attorney-gen. of Va., he was admitted to the bar 1797, followed his mother to Ky., and opened an office at Lexington. His eloquence and social gifts won rapid success; it is said that some of his most brilliant speeches were made in criminal trials before he was 25. He married 1799 Lucretia Hart (1781–1864). His political career began in the canvass for members of a convention to revive the state constitution, 1799; he advised the gradual emancipation of the slaves, and attacked the alien and sedition laws. He was elected 1803 to the legislature, and 1806 (when not yet quite of the required age) to the U. S. senate, to fill the unexpired term of Gen. J. Adair. Here, though he sat for but a few months, he took an active part on committees and in debates, urging the construction of a bridge over the Potomac and a canal around the falls of the Ohio, with a general appropriation for internal improvements. Returning to the Ky. legislature 1807, he was made speaker, and procured the defeat of a bill which narrowly aimed to exclude the use of British reports and decisions from Ky. courts, but brought in resolutions approving the embargo and pledging to govt. the support of Ky. in any resistance to British aggression, besides one advising the wearing of domestic fabrics only. For the latter he was called a demagogue by Humphrey Marshall, whom he challenged to a duel; they exchanged two shots, and each was slightly wounded. Again sent to the U. S. senate, 1809, to fill Judge J. B. Thruston's unexpired term, he favored encouraging home industries, that the country might supply its own needs in time of war, and introduced a bill to regulate trade with the Indians and maintain peace on the frontier. In the session of 1810–11, he defended the occupation of w. Fla., urged the organization and admission of La. as a state, and opposed the renewal of the U. S. Bank charter. He was now sent to the house of representatives: so high a reputation had he won in the senate that on taking his seat 1811, Nov. 4, he was at once chosen speaker, and accepted as their leader by the dominant party. Alike by the composition of committees and by vehement speeches on the floor, he urged on war with England, which was declared 1812, June. It did not end as soon as C. expected, but while it lasted he gave earnest support to the govt. Party spirit sometimes carried him beyond the bounds of courtesy, as in his violent denunciation of the federalists, and especially of Josiah Quincy, during the first winter of the war. He was re-elected speaker 1813, May, but resigned 1814, Jan., to go to Europe with J. Q. Adams and other peace commissioners. During the negotiations at Ghent, C. opposed allowing British navigation of the Mis-

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sissippi. The treaty was signed Dec. 24, and after some months in Paris and London, he reached home 1815, Dec., and declined the mission to Russia. Successive re-elections kept him in congress and in the speaker's chair till 1821 (and 1823-25). He favored the protective tariff of 1816, and acknowledged changed convictions as to the bank, which he now thought constitutional and necessary. He steadily urged internal improvements, and defended, against Monroe and Madison, the right of congress to undertake them. He advocated through two sessions the recognition of the independence of the Spanish American states, and saw that end attained 1822. He alienated Jackson 1819 by criticising his Fla. campaign, and blamed the administration for abandoning Texas. He led in the discussions, 1819-20, as to the admission of Mo., opposed the clause which forbade slavery there, but supported the compromise proposed by Thomas, of Ill., excluding that institution from newly-acquired territory n. of $36^{\circ} 30'$; his committee, with one of the senate, settled the Mo. affair 1821. The next two years he spent in private practice, but returned to congress 1823, Dec., to follow the lines of his former policy in the 'American system' and the tariff of 1824. He was now one of four candidates for the presidency, but received the lowest vote of all. The election devolving on the house, he voted for J. Q. Adams, who made him sec. of state (1825-29). On this arose charges of 'bargain and corruption,' which, though refuted, followed C. through life. John Randolph of Roanoke denouncing the administration as a 'combination of the puritan and the blackleg,' C. challenged him, and a bloodless duel was fought 1826, Apr. 8, Randolph refusing to aim at C. As sec. he negotiated treaties with Prussia, the Hanse towns, Denmark, Colombia, Central America, Austria, and several with England. On Jackson's inauguration, 1829, he retired to his farm of Ashland, but was still regarded as the head of the opposition, and in several journeys s. and w. made speeches against the govt. He was elected, 1831, to the U. S. senate, where he was a principal figure till 1842. The anti-tariff excitement brought Jackson strong southern support, and Clay's first measures for reduction of duties proved inadequate. He was the national republican candidate for pres. 1832, but received only 49 electoral votes to Jackson's 219. His Compromise Bill of 1833, Feb. 12, providing for a gradual reduction of the tariff till 1842, to be followed then by a 'horizontal' rate of 20 per cent, was accepted by the S. C. nullifiers, and C. was again hailed as 'the great pacifier.' He introduced the resolutions of 1833, Dec. (expunged 1834), censuring the pres. for removing the deposits, and denounced Jackson's protest. Continuing his active opposition, he succeeded in withholding from the pres. the desired authority to make reprisals on the French for not paying an indemnity, attacked his sweeping removals from office, and endeavored to restrict his power therein. He favored, 1835-36, the reception of anti-slavery petitions, and opposed the exclusion of anti-slavery documents from the mails, but resisted the

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proposed abolition of slavery in the District of Columbia, and reported favorably 1836, June, as to the recognition of Texan independence under certain conditions. From 1836 he was pres. of the Amer. Colonization Soc., succeeding Madison. He advocated international copyright 1836-37. Re-elected to the senate 1837, he denounced Van Buren's sub-treasury system as a plan to 'unite the power of the purse with the power of the sword,' and wished to re-establish the old U. S. Bank. He coveted the whig nomination, 1839, Dec., and had a plurality of votes; though chagrined at his defeat, he made many speeches for Garrison, and declined the portfolio of state 1841. Now the unquestioned whig leader in congress, he pushed a repeal of the sub-treasury act, and framed two bank bills, both of which Pres. Tyler vetoed. C. now denounced the pres., and read him out of the party. His land bill was at length passed. After unsuccessful efforts to limit the veto power, and otherwise hamper the administration, he took leave of the senate 1842, Mar. 31, never, as he said, to return. He now journeyed about the country, making speeches in favor of a tariff for revenue with incidental protection: neither his eloquence nor the charm of his manners was impaired, and the warmth with which he was received proved his popularity. His 'Raleigh letter,' 1844, Apr. 17, opposed the threatened annexation of Texas as unfair to Mexico, sure to cause war, and strongly objected to in the north. May 1, the whig national convention nominated him by acclamation. To conciliate the south he wrote another letter, saying he would be 'glad to see' Texas annexed 'without dishonor, without war, with the common consent of the Union, and upon fair terms.' This compliance strengthened the anti-slavery party, which had nominated J. G. Birney, and probably cost C. the vote of N. Y. and thus the election. The contest was hot and close; democratic frauds were charged in N. Y. and La.; Penn. was carried by a letter of Polk apparently favoring a protective tariff, and C., to the deep disappointment of his friends and his party, received but 105 votes to his rival's 170. The annexation of Texas followed, and the Mexican war, in which C. lost a son. In the fall of 1847 he made a manly speech at Lexington, deprecating the ambition of conquest, desiring a generous peace, and reprobating the lust of increased territory for the extension of slavery. In 1848, Feb. and Mar., he was received with great honor in Baltimore, Philadelphia, and New York. His name was prominently before the convention of June 7, but Gen. Taylor was more available. Disgusted and embittered, C. took no part in the canvass, professing to regard Taylor's party soundness and loyalty as doubtful. Taught by experience, he returned to his position of fifty years before, and, in view of another convention to revise the Ky. constitution, again advised gradual emancipation. 1849, Dec. 3, he again entered the U. S. senate. Cal., N. Mex., and Utah sought admission, and leading southerners insisted that they should be slave states. Webster was preparing a compromise, but C. was first with his scheme

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of 1850, Jan. 29, which admitted Cal. and established territorial govts. in Utah and N. Mex., postponing the crucial test: see COMPROMISE MEASURES OF 1850. The 'Omnibus Bill,' reported by Clay's committee Apr. 18, was defeated, but he secured the passage of its provisions one by one. This, though of no permanent value, was the greatest triumph of his opportunist statesmanship. In 1851, Jan., C. and 43 other senators and representatives issued a declaration that they would support no man not opposed to any disturbance of this settlement; in Feb., he favored giving the pres. extraordinary powers to enforce the new and more stringent fugitive-slave law, already exciting wrath and resistance in the north. After a long rest at Ashland, he returned to Washington, 1851, Dec., in feeble health, was able but once to appear in the senate, and gradually sank.—Between Clay and his rival Webster, long the two greatest public men in America, there is a curious parallel. They held the same views and were governed by the same motives; both suffered from the lust for high office, and made unavailing sacrifices to it. Webster was the more splendid orator, the more majestic presence, the more commanding intellect, but C. the more skilful manager and the more amiable man. As Benton said, will rather than intellect wins, and Clay's will was the stronger. He came less short of the ideal than Webster, being more in harmony with his environment. Both missed the goal of their chief ambition, but Webster's defeat was more crushing and complete. More was expected from the puritan than from the borderer, and less was rendered.—Lives of Clay have been written by G. D. Prentice (Hartford, 1831), Epes Sargent (1844), and with his speeches, by J. B. Swaim (N. Y. 1843), D. Mallory (1844), and more completely by C. Colton (6 vols. 1846–57). His career has been reviewed by Carl Schurz in the *Statesmen* series (2 vols. Boston, 1887).

CLAYBORNE, *klā'born*, or CLAIBORNE, WILLIAM: abt. 1589—abt. 1676; b. Westmoreland, England: a settler of Va. and 'evil genius of Md.' As surveyor of the Va. plantations he emigrated 1621, was made sec. of the colony 1625, and acquired large estates. Under commissions from two govts., 1628–31, and a patent from Charles I., 1631, authorizing him to make discoveries and trade with the Indians, he planted Kent Island in Chesapeake Bay, and established a trading-post there. Lord Baltimore's patent of 1632 conflicted with his prior right, which C. would by no means yield: hence arose troubles never finally settled till Va. 1776 released all claim to territory n. of the Potomac. Leonard Calvert, gov. of Md., expelled C. 1635, with some bloodshed on each side. C. went to England, 1637, to push his claims, and 1642 was made treasurer of Va. He reappeared 1646 in Kent I., but his connection with the expulsion of Calvert from Md. 1645–46, and with the assumption of its govt. by R. Ingle, capt. of a parliamentary ship, is not clear. Appointed 1651, with three others, to reduce Va., C. obtained possession of Md. 1652, and held it till 1658. His petition, 1675, for redress of many alleged

CLAYMORE—CLAYTON-BULWER TREATY.

wrongs was disregarded, and he died on his Va. estates. His numerous descendants in Md., Va., Mo., Miss., and La., spell the name Claiborne.

CLAYMORE, n. *klu'mōr* [Gael. *claidheamh*, a sword, and *mōr*, great]: the Highland broadsword, formerly much used, not now very common. It had a double-edged blade about 43 inches long and 2 in. broad; its handle was often 12 in. long: and its weight 6 or 7 pounds.

CLAYTON, *klu'ton*: village and port of entry in Jefferson co., N. Y., on the St. Lawrence, opposite the Thousand islands; a terminus of the Utica and Black River railroad, 108 m. n. by w. of Utica. It has a good harbor, a landing for vessels, and some pretensions as a summer resort. Pop. (1870) 1,020; (1880) 880; (1890) 1,748; (1900) 1,913.

CLAYTON, JOHN MIDDLETON, LL.D.: 1796, July 24—1856, Nov. 9; b. Dagsborough, Sussex co., Del.: statesman. He graduated at Yale 1815, studied law at Litchfield, Conn., and began to practice 1818 in Del. He was sent to the legislature 1824, and to the U. S. senate 1829–37, where he won a high place by speeches on the Foote resolution 1830, and later in the French spoliation claims. He was chief-justice of Del. 1837–40, and again in the senate 1845–49, and 1851–56. In 1849–50 he was sec. of state under Pres. Taylor, and negotiated with Sir H. Bulwer the treaty which bears their names; this he defended in the senate 1851.

— **CLAYTON-BULWER TREATY**: convention between the United States and Great Britain, negotiated at Washington 1850, and signed July 4 of that year, by John M. Clayton, sec. of state of the United States, and Sir Henry Lytton Bulwer, special envoy of Great Britain. The object of the negotiations was to settle disputed questions concerning territory and jurisdiction in Central America; Great Britain maintained possession of the Belize and a protectorate over the Mosquito Indians, while the United States desired to secure immunity from foreign control for the territory near the proposed ship-canal across Nicaragua. By this convention, both governments agreed not to maintain any exclusive control over the canal, nor to build any fortifications near it, nor to occupy or exercise any dominion over any part of Central America, nor to use connections with governments there in order to gain any commercial advantages over each other with respect to the canal. When it became evident that the United States would undertake a canal across the Isthmus, the American authorities sought a modification of the original Clayton-Bulwer Treaty. In 1899–1900 a convention between the United States and Great Britain was signed, in which the former sought to amend the original compact by having the clause "joint control" abrogated; but when this convention came before the United States Senate that body so altered it that the British government declined to accede to the new form. On 1901, Nov. 18, a new convention was signed which abrogated the clause to which the United States had objected, and on this a definite treaty was ratified, 1902, Feb. 21.

CLAYTONIA—CLEAP.

CLAYTONIA, *klā-tō'nī-a*, or **SPRING BEAUTY**, genus of plants of the order *Portulacaceæ*; first described 1762, and named from John Clayton (1686–1773), the Va. botanist. The flower opens in early spring, is common in the United States, and found in parts of Asia. Some species have been naturalized in Europe. The tubers of the *C. tuberosa* are used as food in Siberia.

CLAZOMENÆ, *klā-zōm'ē-nē*: one of the twelve cities of Ionia. It was built originally on the Hermæan Gulf, westward from Smyrna; but the inhabitants having, through fear of the Persians, fled to a neighboring islet, and Alexander the Great having connected the islet with the mainland by a dike, the city subsequently extended over the peninsula thus formed. It is now called Vurla.

CLEADING, n. *klē'dīng* [Ger. *kleid*; Icel. *klædi*, a garment: W. *clyd*, warm]: in *Scot.*, clothing; a covering for the cylinder of a steam-engine or for a locomotive, to prevent the radiation of heat.

CLEAN, a. *klēn* [AS. *clēne*, pure: Icel. *glan*, shine, polish: Gael. and W. *glan*, clean, pure]: free from dirt or any offensive matter; not foul; free from moral impurity; pure; neat; dexterous or adroit: ADJ. perfectly; wholly; fully: V. to free from dirt or any foulness. **CLEAN'ING**, imp. **CLEANED**, pp. *klēnd*. **CLEANLY**, a. *klēn'lī*, free from dirt or foul matter; neat; pure. **CLEANLY**, ad. *klēn'lī*, elegantly; innocently; cleverly. **CLEAN'NESS**, n. *-nēs*, freedom from dirt or filth; purity. **CLEAN'ER**, n. one who. **CLEANLINESS**, n. *klēn'lī-nēs*, purity: neatness of dress. **CLEANSE**, v. *klēnz*, to purify; to make clean; to remove dirt or any foul matter; to purify from guilt. **CLEAN'SING**, imp. **CLEANSED**, pp. *klēnd*, made clean; purified. **CLEAN'SER**, n. *-klēn'zēr*, one who. **CLEANSABLE**, a. *klēn'-zī-bī*, that may be cleaned.

CLEAN-KAM: in *OE.*, a corruption of **KIM-KAM**, which see.

CLEANTHES, *klē-an'thēz*: abt. B.C. 300–220; b. Assos, in Troas: stoic philosopher. His poverty was such, that he had to work all night at drawing water, in order to obtain money for his support, and for his class-fee while attending the lectures of Zeno. For 19 years he listened patiently to the great Stoic, and on his death succeeded him in his school. He died of voluntary starvation when about 80 years old. C. differed, it is said, from the other stoics, in regarding the sun as the governing principle of the world; but none of his writings are extant except a *Hymn to Zeus*, one of the purest and noblest pieces of poetry in the Greek language. It is an admirable union of such religious feeling as paganism afforded, with philosophic thought, and gives a very favorable impression concerning the author, who, from all that is known, may be deemed a man of stern and serious character. The *Hymn to Zeus* has been edited by Brunck (1778), Schäfer, Schwabe, Petersen, and Koraïs (1826). See Zeller's history of Greek Philosophy.

CLEAP, n. *klēp* [Dut. *kleppen*, to creak, to crackle.]

CLEAR—CLEARANCE.

Ger. *klieben*, to cleave]: in *coal-mining*, the splitting or cleavage in the seam which is transverse to the bedding.

CLEAR, n. *klér* [F. *clair*, clear—from L. *clārus*, bright, clear: Icel. *klar*, clear, pure: Gael. *clar*, a smooth surface; *clair*, smooth surfaces]: open; free from obstruction; free from obscurity or fault; at a safe distance from danger; serene; unclouded; apparent; evident or manifest; distinct; plain; easy to understand; innocent; guiltless; free: AD. clean; quite; wholly: V. to remove any obstruction; to free from anything injurious; to remove incumbrance; to separate any foreign or foul matter; to fine; to clarify; to acquit; to purge from the imputation of guilt; to free from obscurity; to vindicate; to leap over; to make gain or profit; to become free from clouds; to become fair; to become disengaged. **CLEARING**, imp.: N. justification or defense; a tract of land prepared for cultivation by freeing it from growing wood; among *bankers*, the exchange of notes and drafts; among *railway companies*, the exchange of tickets and equitable division of the money received for them. **CLEARED**, pp. *klērd*. **CLEAR'ER**, n. one who or that which. **CLEAR'LY**, ad. -*lī*. **CLEARNESS**, n. **CLEAR-SIGHTED**, a. -*sīt-ēd*, discerning; acute. **CLEAR-SIGHT'EDNESS**, n. **CLEAR'ANCE**, n. -*āns*, permission by the custom-house for a vessel to sail. **CLEARING-HOUSE**, among *bankers* or *railway companies*, an establishment in which the values of their notes, bills of exchange, checks, a certain description of railway tickets, and the like, are equitably adjusted, and the balances paid over where due; a place in large towns where such local exchanges take place between the different banks. **CLEAR-STARCH**, v. to stiffen with starch muslin and similar fine materials, in contradistinction to the former practice of getting up materials with a yellow starch. **CLEAR-STARCHING**, imp.: N. the process of getting up fine linens, etc., clear and white with starch. **CLEAR-STARCHED**, pp. **CLEAR-STARCHER**, n. one who. **CLEAR HEADED**, a. having a clear unclouded intellect. To **CLEAR A SHIP**, to procure the requisite papers at the custom-house, and obtain permission to sail. To **CLEAR FOR ACTION**, in a *ship of war*, to remove all incumbrances from the deck previous to an engagement. To **CLEAR THE LAND**, among *seamen*, to gain the open sea. **CLEAR-STORY**: see **CLERESTORY**, which is the better spelling. Note.—Apparently the Gael. word *clar*, or *clair* indicates better than the F. and L. the origin of such phrases as ‘*clear the way*’; ‘*clear the table*’; ‘*a clear field and no favor*’; ‘*a clear conscience*’; ‘*clear of debt*’; in all which the primary idea is an unencumbered expanse or surface. See Mackay’s Gael. Ety.

CLEARANCE: in the mercantile marine, a permission from custom-house officers or other officials concerned, for the departure of a vessel from a port, denoting that all the formalities have been observed, and all dues, etc., paid. A foreign vessel must also be certified by the consul of the nation to which she belongs. Hence the expression *cleared out*, in reference to the departure of a particular ship.

CLEARCHUS.

CLEARCHUS, *klē-ār'küs*: d. B.C. 400: Spartan general. After holding various commands and employments, he was sent to Thrace to protect the Greek colonies there; the ephors recalled him, but he refused to obey, and seized Byzantium. Driven thence, he entered the service of Cyrus, then gov. of Lydia, and raised 13,000 Greek mercenaries, whom he led to Babylonia on the expedition against Artaxerxes II. C. alone was in the secret of Cyrus's ambitious and treasonable plans, and this he did not communicate to his followers till they had gone too far to withdraw. At the battle of Cunaxa he commanded the right wing of the Greek army, and conducted the retreat after Cyrus's death, which left them in a most dangerous situation. Accepting the invitation of Tissaphernes to a conference, he and his chief officers were treacherously seized and sent to Artaxerxes, who put them to death. Xenophon then took command and led the army to the Black Sea, as recounted in his *Anabasis*.

CLEARING-HOUSE.

CLEARING-HOUSE, in Banking. The business facilities afforded by bankers to their customers in collecting their bills, checks on other firms, and like obligations, early imposed the necessity for an organized form of interchange of such securities, which would at once save labor and curtail the amount of floating cash requisite to meet the settlements of the bankers if effected singly. This was first done in London by the clerks, when out collecting from the different banking-houses, meeting daily at the counter of one of the houses for the purpose; but about 1775, the building in Lombard street, known as the 'Clearing-house,' was set apart for it, under the direction of a committee delegated by the different firms, and the immediate management of two paid inspectors. From time to time during the day each firm transmits to the C. checks and bills which are payable by other bankers for classification, taking account of the obligations coming against their firm, so that, at the close of the day, they are the better able to make up their private books. At 4 o'clock the accounts are closed; each bank has till 4.45 to decide whether it will honor the drafts upon it; and by half-past 5, the officials are able to learn that the several houses are agreed between themselves, who has to pay money and who has to receive, and how much, by making up an account of the form subjoined. It is made up as between the particular bank receiving it and the C. representing every other bank with whom the former may have had any business on the day in question:

G L Y N.

Debtors.	Baiance.		Balance.	Creditors.
280,000	20,000	Barclay		260,000
50,000	10,000	Bosanquet		40,000
110,000		Commercial	10,000	120,000
115,000	5,000	Currie		110,000
50,000	5,000	Fuller		45,000
100,000	10,000	Hanbury		90,000
110,000		Hankey	5,000	115,000
280,000		Jones	20,000	300,000
130,000		Lubbock	10,000	160,000
200,000		Masterman	15,000	215,000
50,000		Olding	5,000	55,000
65,000	5,000	Spooner		60,000
165,000	5,000	Union		160,000
	60,000			
			65,000	

The comparatively small balance thus exhibited, used to be settled by each banking-house which owed money sending down to the C. the amount, and paying it, not to the officials there, but to any clerk whose house claimed a balance. But now, to avoid the risk of handling such a large amount of bank-notes, it is settled by means of a species of check on the Bank of England appropriated to the purpose, called *transfer tickets*, signed by each banking-house, and certified by an inspector of the clearing-house. A white one is used when the bank has to pay a balance to the C., and a green one when it has to receive a balance from it.

CLEARING-HOUSE.

By this means, transactions to the amount of several millions daily are settled without the intervention of a bank-note; and the importance of the arrangement may be assumed from the fact, stated in evidence before the house of commons, that before the connection of the London and Westminster Bank with the C., they were obliged to keep in hand £150,000 in notes for negotiating their exchanges.

The totals of bills, checks, and drafts passed through the C. may fairly be looked upon as a record of the rise and fall of trade; and as London is the chief centre of commerce, not merely for the United Kingdom but of the world, this record may be taken as reflecting the commercial condition of all trading nations. The sums passing through the C. are greatest on certain 'special days.' These are, (1) the fourths of the month, trade bills being mostly dated on the first of the month, and, with three days' grace, falling due on the fourth of some succeeding month; (2) consols settling days, once a month; (3) Stock exchange settling days, when almost all dealings in foreign, colonial, and commercial bonds, stocks, and shares are settled—some accounts having occasionally to stand over until next day. The ordinary days are those left after 72 special days are deducted. The table below shows the totals of bills, drafts, and checks passed through the London C. for the ten years preceding 1895, giving (1), (2), (3) above and the totals for each year in millions of pounds sterling:

	Fourths of Month.	Consuls' Settling Days.	Stock Exchange Settling Days.	Totals per Year.
1886	216	263	1,199	5,902
1887	256	297	1,146	6,977
1888	272	332	1,252	6,942
1889	290	352	1,339	7,619
1890	289	359	1,417	7,801
1891	265	315	1,067	6,848
1892	260	299	1,023	6,482
1893	268	308	1,003	6,478
1894	262	301	964	6,337
1895	284	345	1,805	7,593

The first proposition to establish a clearing-house in New York was made in a pamphlet published, 1841, by Albert Gallatin, formerly sec. of the treasury, and at that time pres. of the national bank. A clearing-house system was not organized, however, till 1853, Oct 11, when 38 banks formed an association for that purpose. The clearing-house is at present in Pine street, the property being owned by the associated banks. The methods in the New York clearing-house differ considerably from those in London; the business is done more quietly and in less time. Each bank in the association daily sends to the clearing-house two clerks, one of whom is called the delivery clerk, the other the settling clerk. The duty of the former is to distribute the bills, checks, drafts, etc., which it holds as creditor of other banks; that of the latter to receive such exchanges from the delivery clerks of other banks. At 10 A.M. the operation of clearing begins. Each settling clerk, as he enters, furnishes the manager of the clearing-house with a credit ticket, showing the total

CLEARING-HOUSE.

amount of exchanges which his bank has brought; these are noted down by a clerk of the clearing-house called the proof clerk. Each settling clerk takes his seat at a desk, having before him a settling sheet, upon which, against the name of each bank, is entered the amount brought in exchanges against it. Each delivery clerk has a similar list of the exchanges which he is about to distribute, and has the exchanges themselves in boxes arranged in front of his desk in the order in which they are to be used. At the sound of a gong each delivery clerk, bearing his exchanges and his list, advances to the next desk, delivers the exchanges which should there be delivered, and obtains upon his list a receipt for them from the settling clerk there seated. These deliveries continue until every bank has been visited. While the delivery clerk has thus been making his rounds, the settling clerk of his bank has been similarly visited by the delivery clerk of every other bank. In about ten minutes the exchanges have been effected; each delivery clerk has receipts for all the exchanges that he has brought, each settling clerk has a record of the amount brought for, and the amount received from, each bank. The delivery clerk takes the latter to his bank; the settling clerk adds up their total amount, and gives the proof clerk a debit ticket stating that amount, as well as the amounts brought, and the resulting balance due to the bank from the clearing-house, or to the clearing-house from the bank, as the case may be. These differences are generally announced in about half an hour. Each debtor bank pays its difference to the clearing-house before 1:30 P.M., soon after which hour each creditor bank receives from the clearing-house the balance due to it. These settlements are in general effected by means of certificates of a certain bank which has been designated as a common depository of coin for the associated banks. There are at present 47 national and 18 state banks in the New York association, besides 77 banks and trust companies in the city and vicinity which make their exchanges through these banks. The average of daily exchanges is nearly \$100,000,000, settled by daily balances averaging \$6,000,000. In 1902 there were 97 clearing-houses of the United States, and in the year ending Sept. 30, the exchanges aggregated \$116,021,618,003, an increase over those of the preceding year of \$3,761,904,653. The largest exchanges were in New York, \$74,753,189,436; Chicago, \$8,341,534,350; Boston, \$6,912,674,641; and Philadelphia, \$5,729,642,760.

CLEARING HOUSE, RAILWAY: association of railway companies of England and Scotland by which they are enabled to conduct a through traffic in passengers and freight without interruption, and adjust the proportion of charges due each carrier. It is regulated by act of parliament 1850, June 25. Each company is represented on a general committee, the sec. of which adjusts and settles the balances due to and from the several companies upon reports made by them to him. The expenses of the C. H. are defrayed by the associated companies and the main offices are in London. A similar system exists in Ireland, with head-

CLEARING-NUT.

quarters in Dublin. In the United States there is no general C. H., the settlements for all kinds of traffic being made directly by the companies. There is an association of New England companies, with headquarters in Boston, which is locally operated somewhat similarly to the English plan. There is also a railway-car association, with head office at Buffalo, which maintains agencies at junction points, takes the number of every car passing those points, and makes settlements for the car mileage to all the companies interested. In general the trunk lines keep open accounts with each other, and the proportion of the whole transportation charge for passengers and freight alike due from and to the different carriers is settled by the agent at junction points by the ordinary system of debits and credits and balancing checks, thus making the clearances the individual action of the companies which carry a passenger or consignment of freight from starting point to destination. For the transportation of immigrants, however, there has recently been established a C. H. association with headquarters in New York. It is composed of the seaboard railroad and the ocean steamship companies. Prior to its organization booking agents in foreign countries would issue orders upon some particular railroad in this country leading from Boston, Philadelphia, Baltimore, or New York, and these orders would be honored with tickets to destination. Then booking agencies were established in New York, Buffalo, Cleveland, Chicago, St. Paul, San Francisco, New Orleans, and other important points, till there are now over 7,000 such agencies in Europe and the United States, which issue orders for the inland transportation of immigrants on the railroads of the United States. The large number of these agencies, the excessive commissions charged, and the competition between the steamship lines which they represented, as well as between the railroad companies, resulted in a great many irregularities which affected the immigrant unfavorably, and more or less directly the public. About the beginning of 1886, the railroad lines running west from the seaboard organized a C. H., the principal function of which is to make settlements between the steamship and the railroad companies, under uniform rules. In 1897, there were in the agreement 14 lines of road having terminals at Montreal, Quebec, Halifax, Portland, Boston, New York, Philadelphia, and Baltimore. New articles of agreement were adopted in 1889 which continue the association along practically the same line as before. The most important agency of the C. H. is at the port of New York, and is on Ellis Island, which has been set apart by the U. S. govt. for the landing of immigrants.

CLEARING-NUT (*Strychnos potatorum*): small tree of the same genus with the NUX VOMICA (q.v.), abundant in the forests of India, and of which the seeds are much used for clearing water. They are sold for this use in the bazaars, and travellers usually carry some with them. These seeds being rubbed on the inside of a vessel, muddy water put into it very rapidly becomes clear, all impurities

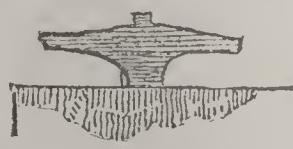
CLEAR LAKE—CLEAVAGE.

settling to the bottom. The tree has a deeply-fissured bark; ovate, smooth, and pointed leaves; and a shining, black, pulpy fruit, with only one seed. The wood is very hard, and is used for various purposes.

CLEAR LAKE: in Lake co., Cal., 112 m. n. of San Francisco. It is 24 m. long, 2 to 6 m. wide; in a wild and picturesque region, formerly much resorted to by hunters and fishermen.

CLEARNESS: quality of art which is realized by a skilful arrangement of colors, tints, and tones. Where C. is to be obtained without sacrificing depth, a knowledge of *chiaroscuro* (q.v.) becomes indispensable.

CLEAT, n. *klet* [Dut. *kluit*, a lump: AS. *cleot*, a plate, a clout]: a piece of wood fastened on the yard-arm of a ship to keep the ropes from slipping. There are several kinds applied to various purposes; and known as *belaying, comb, mast, shroud, single, stop, thumb*, etc., *cleats*; a piece

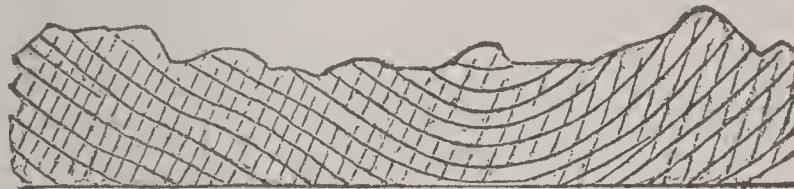


Cleat.

of wood to fasten anything to; a piece of iron worn on shoes to render them more durable.

CLEAT, n. *klet* [a provincial word; apparently a corruption of *cleft*]: in *coal-mining*, the splitting or cleavage in the seam which is transverse to the bedding: see **CLEAP**, in same sense.

CLEAVAGE, or SLATY CLEAVAGE: condition of rocks in which they split easily into thin plates. The direction of these laminæ may be in the plane of stratification, but much more frequently differs from it. C. is the result of an operation subsequent to, and entirely independent of, the original stratification of the rocks. It is im-



Section exhibiting Lines of Cleavage.

possible to determine its producing cause. By some it has been ascribed to crystalline agency, while others maintain that it arises from the pressure of mechanical forces at right angles to the planes of C., and yet others seek an explanation in a combination of these two agencies. Prof. Sedgwick, who has carefully examined the phenomena of C., has arrived at the following general results: 1. That the strike of the C. planes, when they were well developed, and passed through well-defined mountain-ridges, was nearly coincident with the strike of the beds; 2. That the dip of these planes (whether in quantity or direction) was not regulated by the dip of the beds, inasmuch as the C. planes would often remain unchanged while they passed through beds that changed their prevailing dip, or were contorted; 3. That where the features of

CLEAVE—CLEBURNE.

the country or the strike of the beds was ill defined, the state of the C. became also ill defined, so as sometimes to be inclined to the strike of the beds at a considerable angle; 4. Lastly, that in all cases where the C. planes were well developed among the finer slate-rocks they had produced a new arrangement of the minutest particles of the beds through which they pass.

C., though generally confined to clay-slate, yet sometimes occurs in lime and sandstone; but in proportion as the rocks are coarse, the C. planes become fainter and wider apart. In the fine-grained clay-slate, on the other hand, the laminæ are thin, smooth, and parallel; and as C. is always accompanied with more or less induration in the rock where it exists, clay-slate, thus altered, is of great economic value for roofing.

CLEAVE, v. *klēv* [AS. *clūfan*, to split or cleave: Ger. *klieben*, to cleave—from Ger. *kloben*, a mass or bundle: Dut. *kloue*, a cleft]: to split; to part or divide by force; to crack; to part; to open. **CLEAV'ING**, imp. **CLOVE**, *klōv*, or **CLEFT**, *klēft*, pt. did cleave. **CLOVEN**, *klō'vn*, **CLEFT**, *klēft*, or **CLEAVED**, pp. *klēvd*, divided by force. **CLEAVER**, n. *klē'ver*, a butcher's chopper. **CLEAV'ABLE**, a. -ā-bl, that may be split or parted. **CLEAV'AGE**, n. -āj, a structure of a stratified rock, which renders it capable of being split indefinitely into thin plates; a splitting of certain rocks, as clay-slate, in a direction different to that of the plane of stratification. **CLEAVAGE PLANES OF CRYSTALS**, the planes into which crystals are easily split, the planes generally being parallel with one of the faces.

CLEAVE, v. *klēv* [AS. *clifian*, to fasten or stick: Ger. *kleben*; Dut. *kleeven*, to stick to, to fasten: Dan. *klabe*, to stick]: to adhere to; to stick to; to be united in interest or affection. **CLEAV'ING**, imp. **CLEAVED**, *klēvd*, or **CLAVE**, *klāv*, pt. did cleave. **CLEAVED**, pp. **CLEAVERS**, n. plu. *klē'verz*, goose-grass (*Galium Aparine*), a species of bedstraw (q.v.), a coarse annual, with whorls of 6–8 leaves, both stem and leaves rough with reflexed bristles, the fruit also hispid, and when ripe, very ready to adhere to any passenger who may brush against it; common weed in hedges and bushy places in Britain and most parts of Europe; from time to time brought into notice as possessing a remarkable specific power over some of the most formidable cutaneous diseases, including even lichen and leprosy, also over cancer. It is administered in the form of decoction or of extract. The whole subject of the properties of this herb seems to demand fuller examination.

CLEBURNE, *klē'bērn*, PATRICK RONAYNE: 1828, Mar. 17—1864, Nov. 30; b. co. Cork, Ireland: Confederate general; descendant of Wm. Clayborne, of Va. At 19 he ran away from Trinity College, Dublin, enlisted in the 41st foot, and served three years. Emigrating, 1850, he settled at Helena, Ark., studied law, and practiced it with success. Entering the southern army as a private he rose rapidly through all the grades, becoming brig. gen. 1862, Mar., maj. gen. 1862, Dec. He served with distinction at Shiloh,

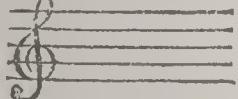
CLECHE—CLEG.

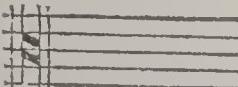
Perryville, Murfreesboro, Chickamauga, and Missionary Ridge, was thanked by the Confederate congress for the defense of Ringgold Gap, covered the retreat of Hood's army at Jonesboro, and was killed at Franklin, Tenn., after his corps had carried two lines of the Federal works. He introduced the order of the Southern Cross, urged the use of negroes as soldiers, and was honored as the Stonewall (Jackson) of the west.

CLECHE, n. *klā'shā* [F. *cléché*—from L. *clavis*, a key]: in *her.*, a kind of cross, charged with a similar cross of the same figure, but of the color of the field.

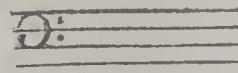
CLEEF, *klāf*, JAN VAN: 1646–1716; b. Venloo: painter. He was a student under Gaspard de Craeyer. Of his works, which are numerous in the churches of Flanders and Brabant, some of the best are at Ghent, where he died.

CLEF, n. *klēf* [F. *clef*, a key—from L. *clavis*, a key]: in *a piece of music*, a figure placed at the beginning of each stave to tell its pitch, or the degree of elevation in which it is to be played or sung, and to fix the names of the notes. There are three kinds of clefs—viz.: the G, the C, and the F clef. The G clef is placed on the second line,

thus: ; the C clef on the third line, thus:

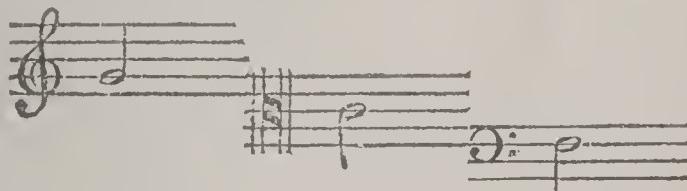


; and the F clef on the fourth line, thus:



. The C clef is a fifth below the G clef,

and a fifth above the F clef, thus:



The C clef is also placed on the fourth line for some instruments, and for the tenor part in vocal music, thus:



; and in old vocal music, the C clef placed

on the first line was used for the soprano.

CLEFT, n. *klēft* [from CLEAVE 2: Icel. *kluft*; Dan. *klöft*, a cleft]: a crack; a gap; a crevice; a fissure.

CLEG, n. *klēg* [Gael. *cuileag*, a fly]: the gleg or horse-

CLEISTOGAMOUS—CLEMATIS.

fly; the glad-fly: denoting some insects of the dipterous family *Tabanidae*, the females of which are extremely



Cleg (*Chrysops cæcutiens*).

troublesome to horses, cattle, and human beings in summer, piercing their skins by means of a curious apparatus of small lancets with which the mouth is furnished, and drinking their blood. The name C. is sometimes given in England to *Chrysops cæcutiens*, a fly frequent in most parts of Europe, which frequently inserts its proboscis through the sleeve, or some other part of the dress, and thus makes man himself the object of its attack. It is about one-third of an inch in length, mostly black, with yellow markings on the abdomen, and very large eyes of the most beautiful green and golden colors. The insect always called C. in Scotland, is *Hæmatopota pluvialis*—a rather smaller fly, mostly of a gray color, but also, remarkable for its very large and beautiful eyes, which are greenish, with waved purplish-brown bands: in England, it is sometimes called the *Stout*.

CLEISTOGAMOUS, a. *klīs-tōg'ū-mūs* [Gr. *kleistos*, shut; *gamos*, marriage]: in bot., in same sense as **CLEISTOGENOUS**.

CLEISTOGENOUS, a. *klīs-tōj'ē-nūs* [Gr. *kleistos*, shut; *génōs*, birth]: in bot., inconspicuous self-fertilized flowers, as distinguished from the large conspicuously colored ones, found on the same plant, as in the violet.

CLÉMANGES, or **CLÉMENGES**, *klā-möngzh'*, NICOLAS DE: 1360—abt. 1440: mediæval reformer. He studied theology under Pierre d'Ailly, and became rector of the Univ. of Paris 1393. He sought to heal the schism between Rome and Avignon by a memoir of 1394, June 30, presented to the French king and approved by the univ. He attacked the immorality of the higher clergy, and advised Bible-teaching as a cure for wars and disorders. He is credited not only with great eloquence and zeal, but with opinions far in advance of his time, as with questioning the spirit's guidance of the ecumenical councils; yet he placed the authority of councils higher than the pope's, and that of the Scriptures above all. At Chartres, 1421, he defended the liberties of the Gallican Church. He lectured on theology at the College of Navarre from 1425 till his death.

CLEMATIS, n. *klēm'ā-tīs* [Gr. *klēmātis*, a little vine-branch, a small twig]: genus of plants of the nat. ord. *Ranunculaceæ*, having four colored sepals, no corolla, and for fruit numerous one-seeded achænia with long—generally feathery—awns. The species are numerous, herbs or shrubs, generally with climbing stems, natives of very different climates, and much scattered over the world. They possess more or less active caustic properties. The long awns give the plants a beautiful appearance even in winter. The flowers also of many species are beautiful. *C. vitalba*, the common **TRAVELLER'S JOY** (fancifully so

CLEMENS.

named because of its ornamental appearance by the way-side), is the only native of Britain. A number of species are commonly cultivated in gardens. *C. flammula*, native



Clematis Vitalba.

of the s. of Europe and n. of Africa, with white flowers, which have a very strong honey-like smell, is the species known as sweet virgin's bower.

CLEMENS, SAMUEL LANGHORNE (pen name, MARK TWAIN): author: b. Florida, Monroe co., Mo., 1835, Nov. 30. He received a village-school education; became a pilot on Mississippi river steamboats 1855; went to Nevada 1861, and was appointed city editor of the *Enterprise* at Virginia City 1862. In 1865 he served several months as reporter on the *Morning Call* at San Francisco and as a placer miner in Calaveras co., Cal.; 1866 made a trip to the Sandwich Islands, and returning to San Francisco delivered several humorous lectures in Cal. and Nev., and removed to New York to bring out his first book. In 1867 he accompanied a party of tourists to the Mediterranean, Egypt, and the Holy Land, and based his second book on the real and fancied experiences of the journey. Subsequently he settled in Buffalo, N. Y., became editor of the *Express*, and married; then removed to Hartford, and lectured in the principal cities. He made a lecture tour of England 1872, and became a partner in the publishing house of Charles L. Webster & Co. in New York 1884. His publications include *The Jumping Frog and Other Sketches* (1867); *The Innocents Abroad* (1869); *Roughing It* (1872); *The Gilded Age* in conjunction with Charles Dudley Warner (1873; dramatized 1874), *Adventures of Tom*

CLEMENS--CLEMENS ROMANUS.

Sawyer (1876); *Punch Brothers*, *Punch* (1878); *A Tramp Abroad* (1880); *The Stolen White Elephant* (1882); *The Prince and the Pauper* (1882); *Life on the Mississippi* (1883); *Adventures of Huckleberry Finn* (1885); and *A Connecticut Yankee in King Arthur's Court* (1889).

CLEMENS, *klē'mēnz*, TITUS FLAVIUS (CLEMENS ALEXANDRINUS): one of the 'fathers' in the Christian Church, at the close of the 2d and beginning of the 3d c.; b. prob. at Athens; d. between 213 and 220. He resided during the greater part of his life in Alexandria, whence the epithet *Alexandrinus*. In his earlier years he applied himself with great zeal to the study of philosophy. His love of knowledge induced him to visit Greece, Italy, Syria, Palestine, and other countries. It is not known precisely when he was converted from heathenism; but it is certain that after coming to Egypt, and listening to the prelections of Pantænus, he joined the Alexandrine Church, and was made a presbyter. Afterward he became assistant to his master, who held the office of *catechist*. In 202, the persecution of the Christians under Severus compelled him to flee to Palestine. He is supposed to have returned to Alexandria about 206, and in 211 succeeded Pantænus. The year of his death is differently stated. His most distinguished pupil was Origen.

CLEMENS ROMANUS, *klē'menz rō-mā'nus*: Bishop of the Church in Rome (CLEMENT I. in Rom. Cath. list of popes): one of the apostolical fathers. Origen considered him the C. mentioned by the apostle Paul, Phil. iv. 3. Tertullian thought him the first bishop of Rome, ordained as such by St. Peter; Irenæus made him the third, and he is supposed to have been preceded by Linus and Cletus or Anacletus. Eusebius places his episcopate at 93-101. Nothing is known of his death; only fictions of late origin represent him as a martyr.—The only writing assigned with probability to C. is the epistle from the Church of Rome to that of Corinth, exhorting to a peaceful and orderly course. The earliest mention of this is in a letter from Dionysius, Bp. of Corinth, to Soter, Bp. of Rome, 166-174; it is here ascribed to C., and all later testimony favors his authorship, the conjectural date usually given is 96 or 97, though some say 68. Some critics have denied its genuineness and placed it some decades later; others, with no better reason, consider a few chapters interpolations. One leaf of the MS. was lacking, and the epistle is thus far imperfect. Clement of Alexandria often cited it as the work of the 'apostle Clement,' and seemed to place it on a par with the New Test. Scriptures. It was greatly honored in the early church, and not undeservedly; several ancients say it was read in the Sunday services. The best edition is that of Prof. Lightfoot (1869).—Some have considered C. the writer of the canonical epistle to the Hebrews, and several documents have been erroneously ascribed to him. 1. A second epistle to the Corinthians, found with that of C. at the end of the *Codex Alexandrinus*; it originated probably in Egypt about 180. 2. Two letters on Virginity, found in a Syriac text. 3. The so-called Clementine *Reo*.

PLATE 7.

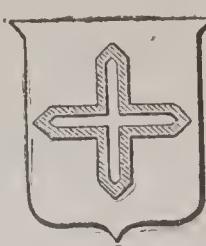
Civic Crown
Clematis



Civic Crown.



Clavate.



Cross Cléchée.



Cleche.



Clarinet.—*a*, Mouthpiece, back view, with reed removed; *b*, The same with reed attached.



Clematis montana.

CLEMENT--CLEMENT V.

ognitions and *Homilies*, the probable date of which is about 200. 4. The *Apostolical Constitutions*, of various though early origin.

CLEMENT, a. *klém'ēnt* [F. *clément*, gentle, mild—from L. *clemen tem*, mild, merciful: It. *clemente*]: mild, gentle in disposition; kind; merciful; tender. **CLEMENCY**, n. *-ēn-sī* [F. *clémence*]: mildness in temper and disposition; gentleness; mercy; disposition to forgive or to spare. **CLEM'ENTLY**, ad. *-lī*, in a mild and merciful manner.

CLEMENT I.: Pope: see CLEMENS ROMANUS.

CLEMENT II., *klém'ēnt* (SUIDGER, a Saxon, Bp. of Bamberg), Pope: d. 1047, Oct. 9. Having been canon of Halberstadt, chaplain to the Abp. of Bremen, and chancellor to Henry III., by the influence of this patron he succeeded Gregory VI. 1046, Dec. He crowned Henry emperor, held a council which passed decrees against simony, and died at Pesaro, poisoned, as was supposed, by Benedict IX.

CLEMENT III. (PAULINO SCOLARI, a Roman, Bp. of Præneste), Pope: d. 1191, Mar. He was elected 1187, Dec. 19, and entered Rome 1188, Mar. 13. Here he quieted long-standing disorders by allowing citizens to elect their magistrates, while he retained the nomination of the gov. of the city. He proclaimed the third Crusade, against the Saracens, who had taken Jerusalem, and introduced some small reforms.—Another Clement III., antipope, 1080–99, was Guibert of Parma, Abp. of Ravenna. He was obtruded by Henry IV., and kept in authority over the imperial provinces while Gregory VII., Victor III., and Urban II were the legitimate popes, though he had been expelled from Rome, 1089, and had sworn to renounce his claim. He died at Ravenna 1100.

CLEMENT IV. (GUI FOULQUES, of Languedoc, Abp. of Narbonne), Pope: d. 1268, Nov. He had been a soldier, lawyer, and sec. to Louis IX. of France; after his wife's death he took orders and became Bp. of Puy, Cardinal-Bp. of Sabina, and papal legate in England. Elected against his will, 1265, he went to Rome in disguise, being in danger from Manfred, of Naples, and called in the aid of Charles of Anjou, who soon overthrew Manfred. C. has been unjustly accused of advising his ally to put to death the heirs of the Swabian prince. He signed the pragmatic sanction which ended the dispute between Rome and France, and rejected a reformation of the calendar proposed by Roger Bacon, whom, however, he befriended. C. was a man of high character, and a foe of nepotism. He lived during his pontificate at Viterbo, and died there.

CLEMENT V. (BERTRAND DE GOTH, Abp. of Bordeaux), Pope: abt. 1264–1314, Apr. 20. He had been Bp. of Comminges, 1295–99, and a partisan of Boniface VIII.: raised to the papal chair 1305, June 5, after 11 months' vacancy and long disputes between the French and Italian cardinals. His uniform subserviency to Philip the Fair, gave color to the reports of a bargain which secured his election.

CLEMENT VI.—CLEMENT VII.

Having created nine French cardinals, he (with some excuse in the disturbed condition of Italy and Rome) removed the seat of the papacy, 1308, to Avignon, and began what Petrarch called the Babylonish captivity. He is memorable chiefly for this, and for his bull, 1311, suppressing the Templars, which Philip executed with scandalous greed and flagrant cruelty. At the council of Vienne, 1311–12, he acquitted his predecessor's memory of the charge of heresy, founded a few chairs in the universities, and offered some encouragements to study. He opposed Henry VII. in his march through Italy, put down the heresy of Fra Dolcino in Lombardy, and issued the Clementine Constitutions 1313. He was the first pope to assume the triple crown. He died at Roquemance, in Languedoc, having exemplified some of the worst vices of his age and office.

CLEMENT VI. (PIERRE ROGER, of Limousin, Abp. of Rouen), Pope: d. 1352, Dec. 6. He had been a Benedictine monk, Bp. of Arras, and chancellor to Philip of Valois. Elected 1342, May 7, he remained at Avignon, declining the entreaties of Petrach and Rienzi to come to Rome. Rienzi went back as the pope's protonotary, and soon became tribune, while Petrarch praised the culture, eloquence, and generosity of C. He bought Avignon, 1348, from Joanna of Naples, and paid for it (in lieu of 80,000 crowns) by absolving her for the murder of her husband. He ordered the jubilee to be celebrated every 50 years instead of every century, renewed the excommunication of the emperor Louis of Bavaria, quarrelled with Edward III. of England about benefices, and took some steps toward reunion with the Eastern Church. Villani denounced his avarice and immorality; Gregorovius called him 'a fine gentleman, a profusely munificent prince, a patron of the arts and of learning, but no saint.'

CLEMENT VII. (GIULIO DE' MEDICI, Abp. of Florence), Pope: abt. 1475–1534, Sep. 25. A nephew of Lorenzo the Magnificent, he had been knight of Malta, grand prior of Capua, and chief minister of his cousin, Leo X., at whose death, 1522, he procured the election of Adrian VI. as a stop-gap. Gaining the papal chair, 1523, Nov., he joined his neighbors in a league with France; a vacillating policy incurred the wrath of Charles V., and Rome was assaulted and sacked, 1527, May 5, by the mercenaries of the constable Bourbon. C. took refuge in the castle of San Angelo, which he soon surrendered, and was a prisoner for six months; to regain his liberty, he gave up several strongholds, and five cardinals as hostages. After this he was controlled by the emperor, whom he crowned, 1530, at Bologna. His efforts to check the progress of the Reformation in Germany met no great success; his refusal, 1534, Mar. 23, to dissolve the marriage of Henry VIII. with Catharine of Aragon was anticipated by the bill abolishing the pope's authority in England, which received the king's assent Mar. 30; the bull of May widened the breach. C. married his niece Catharine de' Medici to the

CLEMENT VIII.—CLEMENT X.

Duke of Orleans, second son of Francis I., at Marseilles, 1523. His character was decent, but weak and timid; his diplomatic cunning was useless in the political and religious convulsions of that period. Though of high reputation as a cardinal he was not a man to shape or resist the course of such events, and no legitimate pope endured greater humiliations and reverses.—A previous Clement VII., antipope, was Robert of Geneva (abt. 1342–94), Bp. of Cambrai and legate of the Romagna, where he ruled savagely by help of the free lances of Malestroit and Hawkwood. Elected at Fondi, 1378, by 12 French and four Italian cardinals, who disowned Urban VI., he inaugurated the schism of Avignon, was acknowledged for a time by Naples, Aragon, Castile, and France, and kept his state during five years of Boniface IX., till the attack of Clémanges (q.v.), backed by the Univ. of Paris and even his own cardinals, brought on a fatal illness.

CLEMENT VIII. (IPPOLITO ALDOBRANDINI), Pope: 1536–1605, Mar. 3; b. Fano. He was of noble Florentine family, and had been auditor of the rota and referendary of Sixtus V. He succeeded Innocent IX., 1592, Jan. 30, and refused to acknowledge Henry IV. of France till that prince was reconciled to the church and absolved, 1595, after long negotiations, conducted by Cardinal D'Ossat. He mediated the peace of Vervins, 1598, between France and Spain, and restrained these powers from another war, 1600. He added Ferrara to the papal dominions, 1598, but failed to make Venice dependent; his main political object was to escape the undue influence of Spain. He promoted learning, crowned Tasso, and made Baronius, Bellarmin, and Du Perron cardinals. On the controversy about grace and free will, raised by Molina's writings, he declined to decide. C. was of high private and official character; his able reign is marked by the number and beauty of his medals, and defaced by no serious blot, except the burning of Giordano Bruno (q.v.), 1600, Feb. 17. His death was ascribed to the Jesuits, whom he had not favored.—An earlier Clement VIII., antipope, was Gil Muñoz, canon of Barcelona, who disputed the papacy with Martin V. He was installed at Peniscola 1424, but abdicated 1429, ending the schism of 51 years, and was made Bp. of Majorca.

CLEMENT IX. (GIULIO ROSPIGLIOSI), Pope: 1600–69, Dec. 9; b. Pistoia. He had been auditor of legation in France, nuncio in Spain 11 years, and sec. of state under Alexander VII., whom he succeeded 1667, June 20. He appeased the controversy between Jesuits and Jansenists, improved the Roman finances, tried vainly to procure aid for Venice against the Turks, who had laid siege to Candia, capital of Crete, and died of grief when it was taken. He was a prince of lofty and attractive character, and much beloved.

CLEMENT X. (EMILIO ALTIERI), Pope: 1590, July 18—1676, July 22; b. Rome. He had been cardinal but five months when he succeeded Clement IX. 1670, Apr.

CLEMENT XI.—CLEMENT XIV.

29. Old and infirm, he gave up the administration of affairs to a nephew, who engaged in a controversy with France concerning benefices and revenues. Christina of Sweden attended his jubilee 1675. Neither his person nor his reign was memorable.

CLEMENT XI. (GIOVANNI FRANCESCO ALBANI), Pope: 1649, July 22—1721, Mar. 19; b. Pesaro. He became cardinal 1690, and succeeded Innocent XIII., 1780, Nov. 23. He was a man of blameless character, a scholar, and a patron of letters, but his pontificate was rather disastrous. His support of Louis XIV. in the war of the Spanish succession caused an invasion of his territories by the imperial troops; he was forced to recognize Charles of Austria as king of Spain, lost his hold on Sicily, Sardinia, Parma, and Piacenza, and retained few friends beyond the king of Portugal and the English Pretender, who lived at Rome from 1717. By the bull *Vineam Domini*, 1705, he condemned the five propositions of Jansen, and by that called *Unigenitus*, 1713, 101 from Quesnel. The French parliaments refused to register the latter bull, and troubles of long standing ensued. On the other hand, the Jesuit missionaries in China, who liked to manage matters in their own way, resisted his prohibition of their practices of accommodation and conciliation, in suiting their language to their hearers, and participating in heathen rites. C. added much to the Vatican library, and founded an academy of the fine arts at Bologna.

CLEMENT XII. (LORENZO CORSINI, Bp. of Frascati), Pope: 1652, Apr. 7—1740, Feb. 6; b. Florence. He became cardinal 1706, succeeded Benedict XIII. 1730, July 12, and at once tried and punished Cardinal Coscia for malversation in the last reign. His own was troubled by Italian wars and foreign complications. He held three jubilees, maintained a lottery, improved the Roman police, promoted arts and sciences, founded in Calabria, 1734, the Corsini seminary for young Greeks, and was the first pope to condemn the Freemasons.

CLEMENT XIII. (CARLO REZZONICO, Bp. of Padua), Pope: 1693, Mar.—1769, Feb. 3; b. Venice. He was made cardinal 1737, bp. 1743, and pope 1758, July 6, succeeding Benedict XIV. He was embroiled with the Bourbons about Parma, and with all the southern and western powers about the Jesuits, who took refuge at Rome on their expulsion from Portugal, France, Spain, Naples, Sicily, Parma, and Malta. He confirmed their privileges by the bull *Apostolicam*, 1765, but under continued pressure for their suppression had summoned a consistory, when he died suddenly, by poison, as was supposed.

CLEMENT XIV. (GIOVANNI VINCENZO ANTONIO GAN-GANELLI), Pope: 1705–74, Sep. 22; b. St. Arcangelo, near Rimini, where his father was a physician. At the age of 18, he entered the order of Minorites, and studied philosophy and theology, which he then successfully taught. His merits were appreciated by the keen-sighted Benedict XIV., who appointed him to the important post of coun-

CLÉMENT—CLEMENTI.

sellor to the inquisition, and under Clement XIII. he was made a cardinal. On the death of Clement XIII. he succeeded to the papal chair, 1769, May 19. No pope had ever been elected under greater difficulties. The kings of Portugal, France, Spain, and Naples were at variance with C., chiefly on account of his support of the Jesuits; Venice wished to reform the religious orders without his interference; Poland was seeking to diminish his influence; the Romans themselves were discontented. C. first set about reconciling the monarchs; he sent a nuncio to Lisbon, suspended the bull *In Cœna Domini*, and entered into negotiations with Spain and France. After several years of negotiation, he issued, 1773, the famous brief *Dominus ac Redemptor noster*, suppressing 'for ever' the society of the Jesuits. The motive assigned in the brief is, 'regard to the peace of the church.' From this time his life was made miserable by constant fear, his strength gradually gave way, and he died of a scorbutic disease. C., whose lot was cast in troublous times, and to whom it seemed providentially appointed that he should meet insurmountable obstacles and deal with irreconcilable elements, was remarkable for liberality and nobleness of mind, address as a statesman, sound learning, and mildness of character. He cherished the arts and sciences, and was the founder of the Clementine museum, which, by the additions of Pius VI. and Pius VII., became the chief ornament of the Vatican.

CLÉMENT, *klā-mōng'*, JACQUES: 1565–89, Aug. 1; b. Sorbon, near Rheims; assassin of Henry III. of France. A Dominican monk, he shared the fanaticism of the League, and was encouraged in his project by his prior Bourgoing, and by a voice at night calling on him to free his country from a tyrant. The Duchess of Montpensier is said to have promised him canonization if he perished, or a cardinal's hat if he escaped. Having fasted and taken the sacrament, he went to St. Cloud, and was found asleep with his breviary lying open at the murder of Holofernes by Judith. Next morning he was admitted as a bearer of dispatches from Paris, and stabbed the king as Henry was looking at the letter he had offered. He was at once cut down by two courtiers, and his body drawn to the place of execution and burned. The earth which had received his blood was collected, his image placed on altars, and his memory revered as that of a martyr and saint: Sixtus V. pronounced his eulogy before the cardinals, comparing him to Judith and Eleazar.

CLEMENT OF ALEXANDRIA: see CLEMENS ROMANUS.

CLEMENTI, *klā-mēn'tē*, MUZIO: 1750 (or 1752)–1832, Mar. 10; b. Rome; pianist and pianoforte composer. His skill on the pianoforte when only 13 years of age secured for him the notice of a Mr. Beckford, an English gentleman travelling in Italy, with whom C. went to England, and in whose family he remained for several years, studying the great composers, and where he also acquired an extensive knowledge of literature. His 'Opera 2' (com-

CLEMENTINES—CLEOBULUS.

posed in his 18th year) is considered the model on which modern pianoforte sonatas have been founded. C. obtained in England the highest reputation as a teacher. Pecuniary misfortunes induced him, 1800, to commence business as a music-seller and manufacturer of pianofortes. He died in London. His compositions, mostly pianoforte sonatas, are full of pleasant melody, and arranged in masterly style. For students his classical *Introduction to Pianoforte Playing*, and his last work, the *Gradus ad Parnassum*, have been highly recommended. His style of playing was brilliant, and in improvisation he excelled all his predecessors.

CLEMENTINES, *klém'en-tīnz*: a body of constitutions and decrees put forth by Pope Clement V. (q.v.) 1313. They were proclaimed by John XXII. 1317, and copies sent to the univs. of Bologna and Paris. They appeared in a folio volume at Mentz 1460; and in the *Corpus Juris Canonici* they form 5 books and 52 titles.—The name is given also (more properly Pseudo-Clementinas) to the *Homilies* and *Recognitions* formerly ascribed to Clemens Romanus, and really produced about 200. They have been edited by Schwegler (1847) and others.

CLEMMER, *klém'mér*, MARY (Mrs. HUDSON): 1839–84, Aug. 18; b. Utica, N. Y.: journalist and author. She was educated at Westfield, Mass. At an early age she wrote for the Springfield *Republican*, and married the Rev. Daniel Ames, from whom she was divorced. Her house in Washington was long a literary and social centre, and her *Woman's Letters* appeared for many years in the N. Y. *Independent*. She wrote the lives of her friends Alice and Phœbe Cary; monographs on Charles Sumner, Margaret Fuller, George Eliot, Emerson, and Longfellow; three novels, *Victoria* (N. Y. 1864), *Eirene* (1870), and *His Two Wives* (1874); *Ten Years in Washington* (1871), and *Outlines of Men, Women, and Things* (1873). Her poems appeared at Boston, 1882. She married, 1883, Edmund Hudson, conductor of the *Army and Navy Register*, who wrote a memorial of her, 1886. She died in Washington. She was a keen observer, and a vivacious and entertaining writer. Her works were collected in 4 volumes, Boston 1885.

CLENCH, v. *kléñsh*: for CLINCH, which see. **CLENCH-BOLTS**, in a *ship*, those clenched at the ends where they come through. **CLENCH-NAILS**, those which will drive without splitting the board.

CLEOBULUS, *klé-ō-bū'lūs*: one of the seven sages of Greece. He was a son of Evagoras; and, b.c. 6th c., ruled his native town, Lindus in Rhodes, either as king or as head of a republic. He was eminent for physical strength and beauty, as well as for the wisdom and acuteness shown in his songs, riddles, and sayings; some of the latter praise moderation, fortitude, and friendship. Diogenes Laertius quotes from him a letter to Solon, and an enigma which may be one of many by his accomplished daughter Cleobuline. C. is credited with believing in the higher education of women.

CLEOMEDES—CLEOPATRA.

CLEOMEDES, *klē-ō-mē'dēz*: Greek writer on astronomy. Nothing is known regarding his life or date. His treatise is entitled *The Circular Theory of the Heavenly Bodies*, and is remarkable as containing, amid much error and ignorance, several truths of modern science—such as the spherical shape of the earth, the revolution of the moon about its axis, its revolution round the earth, etc. C.'s treatise was printed first in Latin by Geo. Valla (Ven. 1498); in Greek, by Conrad Neobarius (Par. 1529). The two latest editions are those of Janus Bade (Lugd. Bat. 1820) and C. C. T. Schmidt (Leip. 1832).

CLEON, *klē'on*: Athenian demagogue, who lived during a part of the Peloponnesian war; originally a tanner, but having a strong bias toward politics, he gradually abandoned his business, and became the champion of popular 'rights.' He first became prominent in the discussion regarding the fate of the Mytilenæan prisoners, b.c. 427. C. advocated the massacre of the males, carried his point, and more than 2,000 perished; the rest were saved through the remorse of the Athenians. In b.c. 425, with Demosthenes, he commanded an expedition against the island of Sphacteria, which was garrisoned by the Lacedemonians, and, much to the surprise of every one, succeeded in reducing the place; but the whole merit of this deed is usually attributed to his colleague. C. himself, however, was highly elated with his success, and his countrymen, or at least many of them, appear to have fancied that he really possessed military genius, for in b.c. 422 he was sent to oppose Brasidas, the Spartan general, in Macedonia and Thrace. On his way thither, he took Torone, a town in which Brasidas had left a small garrison, and afterward Galepsus. But the great design of the campaign was the capture of Amphipolis, where Brasidas was stationed. C. somewhat reluctantly advanced, and began to reconnoitre. While he was so doing, Brasidas made an unexpected sally, and in the battle which ensued both leaders were slain. The Athenian army, however, was defeated, and obliged to retreat. The general opinion of C. is not favorable. He is depicted by Thucydides and Aristophanes as an ignorant, vain, blustering, and cowardly *mobocrat*. Most modern historians have accepted this estimate of the man; but Grote, in his *History of Greece*, has thrown doubt on its truth, and has labored to show that he was the rough but resolute champion of the people, and that his character has been vilified and abused by Aristophanes, who was—there can be no doubt—violently aristocratic.

CLEOPATRA, *klē-ō-pā'tra*, Queen of Egypt: b.c. 69—b.c. 30, Aug.; daughter of the Egyptian king, Ptolemy Auletes. According to the will of her father, she should have inherited the throne with her brother, Ptolemy Dionysus, who was also her husband. Her claim, however, being opposed, Julius Cæsar came to Alexandria, b.c. 48, to interpose in the quarrel, and in the Alexandrian War, Ptolemy Dionysus fell, and C., who was now married to her younger brother, Ptolemy, a boy of eleven

CLEPE—CLEPSYDRA.

years, was established upon the throne of Egypt. She bore a son to Caesar, who was named Cæsarion. On her visiting Rome, Caesar received her with great magnificence, and placed her statue in the temple which he had built to Venus Genitrix. In the civil war, after Caesar's assassination, Cleopatra at first hesitated which side to take. After the battle of Philippi, Antony summoned her to appear before him at Tarsus, in Cilicia, to give account of her conduct. Cleopatra, who had in the meantime rid herself of the youthful Ptolemy by poison, appeared in the character of Venus Anadyomene, and so fascinated Antony, that he ever afterward remained devoted to her. They spent the winter, B.C. 41–40, in Alexandria, in revelry; and Antony, though he had in the mean time married Octavia, sister of Octavianus, returned to the embraces of Cleopatra, who met him at Laodicea, in Syria, B.C. 36, and accompanied him to the Euphrates. His general residence from this time was with her at Alexandria. He bestowed upon her and upon her children great estates, which, however, he had no right so to dispose of. Upon this and other accounts he became the object of great detestation at Rome, and war was declared against Cleopatra, Antony being now regarded as her general. At her instigation, he risked the great naval battle of Actium (q.v.); and when she fled with 60 ships, he forgot everything else, and hastened after her. When Octavianus appeared before Alexandria, Cleopatra entered into private negotiations with him for her own security, which treachery becoming known to Antony, he vowed revenge; but a report coming to him that she had committed suicide, he thought it impossible to survive her, and fell upon his sword. Mortally wounded, and learning that the report which he had heard was false, he caused himself to be carried into her presence, and died in her arms. Octavianus, by artifice, succeeded in making her his prisoner. Failing to make any impression upon him, and finding that he spared her life only that she might grace his triumph at Rome, she took poison, or, as is said, killed herself by causing an asp to bite her arm. Her body was buried beside that of Antony, and Octavia brought up the children whom she had born to Antony as if they had been her own. For Cleopatra's Needle see OBELISK.

CLEPE, v. *klēp* [AS. *cleopen* or *clypian*, to call; to speak: Scot. *clep*, to tattle: Dut. *klappen*, to tattle, to chatter]: in O.E., to call; to name; same as YCLEPE.

CLEPSYDRA, n. *klēp'sī-drā* [L.—from Gr. *klepto*, I steal, and (*h*)*udor*, water]: a water clock; an anc. instrument in which time was measured by the gradual dropping of water through a small orifice. Two kinds have been in use—one wherein the fluid is simply allowed to escape through the orifice; the other, in which the uniformity of the flow is secured by maintaining the fluid at a constant level in the instrument. The first would, like a sand-glass, give only an accurate measure of the time occupied in the escape of the whole fluid; of a shorter time, it would be an inaccurate measure, as the pressure under which the escape

CLEPTOMANIA—CLERC.

takes place at the commencement is greater than at any instant thereafter, and constantly diminishes with the height of the fluid column. In the second, the flow must be nearly uniform; and if the water be received into a uniform graduated tube as it escapes, the instrument would be a moderately good clock. The rate of the flow, however, is affected by temperature and barometric pressure. The C. is supposed to have been used among the Chaldeans. The Romans employed it extensively. The invention of the pendulum superseded it.

CLEPSYDRA was the name also of an anc. Greek musical instrument, described by Athenæus as having pipes which were made to produce a soft sound by the agitation of water forcing air into them. There were levers for admitting the water, thus forming a kind of hydraulic organ.

CLEPTOMANIA: see KLEPTOMANIA.

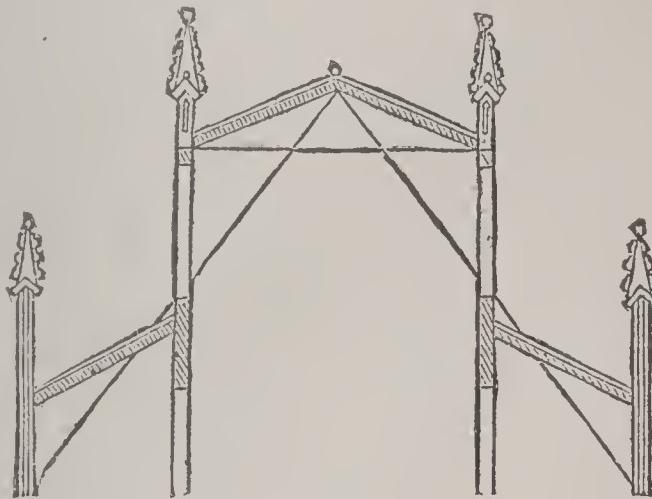
CLERC, *lēh klär*, JEAN LE, better known as JOHANNES CLERICUS: 1657, Mar. 29—1736, Jan. 8; b. Geneva, where his father was a clergyman. From an early age he showed particular aptitude for the study of ancient languages, and in this department he is still a conspicuous name. He gave great attention also to theology, and his numerous controversial writings brought him repute during his lifetime. Before he was 20 years old, C. had imbibed heterodox opinions in religion. In 1678, he went as tutor to Grenoble, where he remained two years; in 1680, he returned to Geneva, and was appointed to the clerical office. All the while, his objections to the accepted theology of the day had been growing: the works of Curellæus and of Episcopius confirmed this antipathy, and now he appeared as Liberius de St. Amore, the writer of eleven Letters against the Errors of the Scholastic Theologians—in short, as the partisan of the Dutch Remonstrants. In the latter part of 1681, C. left Saumur, whither he had gone to perfect his French, went to Grenoble, and thence to London, where he preached six months to the Savoy congregation. Finally, he was appointed Prof. of Philosophy, Classical Literature, and Hebrew at the Remonstrant seminary of Amsterdam. C.'s writings are very numerous; but his greatest service to posterity was the publication of a quarterly, the *Bibliothèque Universelle et Historique* (1686–93, 25 vols. 8vo), followed up by the *Bibliothèque Choisie* (1703–13), and the *Bibliothèque Ancienne et Moderne* (1714–27). Other works of C.'s are—*Harmonia Evangelica* (1700); *Traduction du Nouveau Testament avec des Notes* (1703); *Ars Critica* (3 vols. 1712–30); and *Traité de l'Incrédulité* (1733). The first two are Socinian in their tendency. C.'s rationalism is still more manifest in a work entitled *Sentimens de quelques Théologiens de Hollande touchant l'Histoire Critique du Vieux Testament*, in which the special inspiration of the Scriptures is denied. His editions of several of the ancient classics show his learning and acumen.

CLERC, *klär*, LAURENT: 1785, Dec. 26—1869, July 18; b. La Balme, near Lyon, France; deaf-mute teacher. His

CLERESTORY—CLERGY.

father was mayor of the commune 34 years. When a year old he lost the senses of hearing and smell from a fall into the fire. At 12 he was placed under the Abbé Sicard in Paris, and learned rapidly; at 20 he was made tutor, and proved efficient and successful. Meeting Dr. Gallaudet in England 1815, he accompanied him to America the next year, and joined him in opening the deaf and dumb asylum at Hartford 1817, Apr. 15. To the success of this institution he largely contributed, and trained most of the teachers who went out from it. He married one of his pupils, Miss Boardman, 1819; their children speak and hear. He retired on a pension 1858, and died at Hartford.

CLERESTORY or **CLEARSTORY**, n. *klēr'stō-rī* [F. *cléris-tère*; by others, F. *clair*, clear, bright, and Eng. *story*, a flat]: an upper story or row of windows in a church rising *clear* above the arches of the nave and the adjoining parts of the buildings. **CLERESTORIAL**, a. *klēr-stō'rī-ăl*, pert. to. Originally this term was applied generally to the upper part of any building lighted by several windows, or by a row of small windows or openings in the wall. Latterly, it came to be applied exclusively to the upper part of the central aisle of a church, in which windows were found above the roof of the side aisles. The object of the C. in churches appears to have been to increase the light in the nave, but the windows in existing churches are usually so small as to effect this object very imperfectly. In many



Clerestory of Church.

churches, the C. is a subsequent construction; added when the high-pitched roof, which included the side aisles in its span, gave place to one more nearly flat covering the nave only. The walls over the arches of the nave were then raised so as to receive the C. windows. See **GOTHIC ARCHITECTURE**.

CLERGY, n. *klēr'jī* [F. *clergé*; OF. *clericie*—from mid. L. *clericus*, a clerk or clergyman: Sp. *clerigo*; It. *clerico*, one of the clergy—from Gr. *klēros*, a lot or inheritance]: the body of men set apart to conduct the service of God in a Christian Church; ministers of the Established Church of a country. **CLERGYMAN**, n. a man in holy orders; a

CLERGY—CLERICAL ERROR.

minister of the Christian religion. CLERICAL, a. *klér'i-kál*, pertaining to the clergy of the church—also CLERIC, a. -*ík*: N. a man in holy orders; a clergyman. BENEFIT OF CLERGY, an anc. privilege by which clergymen, and subsequently all who could read, were in certain cases exempted from criminal prosecutions. CLERGYABLE, a. -*á-bl*, applied to felonies within the benefit of clergy.

CLERGY: term generally applied to the ministers of the Christian religion, in contradistinction to the *Laity* (q.v.). This use of the term is very ancient, and appears to have gradually become prevalent, as the ministers of religion more and more exclusively, instead of all members of the Christian Church equally, began to be regarded as God's 'heritage' and 'priesthood' (1 Pet. ii. 9; v. 3), consecrated to God, and peculiarly his. The distinction between the C. and the laity became more marked through the multiplication of offices and titles among the C., the ascription to them of a place in the Christian Church similar to that of the priests and Levites in the Jewish Church, involving not only special duties and honor, but also peculiar rights and privileges, their assumption of a peculiar dress and of official insignia, the growth of monastic institutions, and the introduction of celibacy. In harmony with the notions on which this distinction is founded, is that of an indelible or almost indelible character derived from ordination, so that a renunciation of the clerical office is viewed as either an impossibility, or a sort of apostasy. These notions in their highest degree belong to the Church of Rome. In the Protestant churches, the distinction between C. and laity is much less wide; and though the same terms are often used, it is rather conventionally than in their full signification. The employment of official robes by the C. preceded their assumption of a peculiar ordinary dress, and is not so intimately connected with any peculiar pretensions. Among the privileges accorded to the C. by the Roman emperors, and in the middle ages, was exemption from civil offices; among the rights asserted by them, and which caused much dispute, was exemption from lay-jurisdiction, even in cases of felony: see BENEFIT OF CLERGY. The C. were distinguished into the *higher C.* and the *lower C.*, the latter including janitors, acolytes, lectors, exorcists, etc. The term *Secular C.* is the designation of priests of the Church of Rome who are not of any religious order, but have the care of parishes. Monks who are in holy orders are designated *Regular Clergy*.

CLERICAL ERROR, *klér'i-kál ér'é* [see CLERGY]: an unintentional error or omission made in the transcription of a deed or other written instrument; a venial or pardonable error. Note.—In the middle ages L. *cicericus*; Gr. *kléríkos*; It. *clerico*, one of the clergy; whence F. *clergé*, was applied to the whole body of the clergy, and they were the only educated class in the community. When education began to be diffused among the other classes the name *clericus* was also applied to every educated man, even though not a deacon or priest, whence *clerical error*, an ordinary or unintentional slip or error in a written composition.

CLERK.

CLERK, n. *klérk* [L. *clericus*, a clerk: AS. *cleric*, a clerk, a priest]: a clergyman, *obs.* except in law; a scholar, *obs.*; a reader of responses in the church-service; one engaged to write in an office or keep business books; a scribe, accountant, or recording officer; an assistant in a shop or business. CLERK'SHIP, n. the office of a clerk. CLERK-LIKE, a. having the accomplishments and learning of a clerk. CLERKLY, a. *klérk'li*, in *OE.*, clerk-like. scholar-like; cunning; AD. in a learned manner. SHIP'S CLERK, civil officer on board a ship of war, under the immediate orders of the captain. He keeps all the captain's documents, which are very numerous; such as the ship's log, remarks on coasts and anchorages, the muster-book, etc. PARISH CLERK, official in the Church of England, who leads the responses in a congregation, and assists in the services of public worship, at funerals, etc., but is not in holy orders. There is usually one in each parish. In cathedrals and collegiate churches there are several of these lay-clerks; and in some cases they form a corporate body, having a common estate, besides payments from the chapter. Before the Reformation, the duties were always discharged by clergymen.

CLERK, JOHN, of Eldin, Mid-Lothian, Scotland: inventor of the modern British system of breaking the enemy's line at sea: d. 1812, May 10; sixth son of Sir John Clerk of Penicuick, Bart. Though not a naval man, he studied deeply both the theory and practice of naval tactics, and in 1779 communicated to his friends a new maneuver for 'breaking the enemy's line' in a naval battle. Visiting London the following year, he had some conferences on the subject with naval officers, among whom was Sir Charles Douglas, Lord Rodney's capt. of the fleet in the memorable action 1782, Apr. 12, when the experiment was tried for the first time, and a decisive victory gained over the French. The principle was adopted by all British admirals, and led to many signal naval victories. In 1782, C. printed 50 copies of his *Essay on Naval Tactics*, for private distribution among his friends. It was reprinted and published 1790: the 2d, 3d, and 4th parts were added 1797; and the work was republished entire 1804, with a preface explaining the origin of his discoveries. The maneuver was claimed by Sir Howard Douglas for his father, Admiral Sir Charles Douglas, but C.'s right to it is indisputable.

CLERK, JOHN, Lord ELDIN: Scottish judge: 1757, Apr.—1832, June; son of John C. of Eldin. He was educated for the profession of law, and 1785 was admitted advocate. Distinguished for great clearness of perception and admirable powers of reasoning, he had for many years the largest practice at the Scottish bar, and 1823 was raised to the bench, when he assumed the judicial title of Lord Eldin. He possessed a quaint sarcastic humor, and a coarse but ready wit, which, with his lameness and other bodily peculiarities, rendered him one of the most remarkable Edinburgh characters of his time. He died in Edinburgh.

CLERK TO THE SIGNET—CLERMONT-FERRAND.

CLERK TO THE SIGNET: see WRITER TO THE SIGNET.

CLERMONT - DE - LODEVE, *klér-mōng' déh lo-dūv'*: town in the dept. of Herault, 23 m. w.n.w. of Montpellier, agreeably situated on the declivity of a hill, crowned by the ruins of an old castle. It has extensive manufactures of woolen cloth. Pop. 6,000.

CLERMONT EN BEAUVOISIS, *klär-mōng'tāng bo-vū-zē'* (CLERMONT SUR OISE, *sür wāz*): town of France, dept. of Oise, 36 m. n. of Paris. It was a place of military importance, repeatedly taken and retaken in the English wars, and given 1437 as a ransom for the French cap. La Hir. The Duke of Brunswick purchased it 1659, and the Duke of Lorraine about 1700: Henry IV. took it 1595, and Condé held it 1615. Among its many antiquities is the monument of a Greek who died while Gaul was held by the Romans. A castle partly built in the 10th c. is now a women's prison holding over 1,000 inmates. The hôtel de ville and the church of St. Samson date from the 13th c., and have much architectural and antiquarian interest; the altar and windows of the latter are remarkable. C. has a commercial college, a library, a trade in cattle and horses, and some manufactures of cotton, linen, and paper. Charles the Fair was born here 1294. Pop. abt. 5,800.

CLERMONT - FERRAND, *klér-mōng'fēr-rōng'* (in the middle ages, *Clermont* was *Clarus Mons*, or *Clarimontium*): town of France, cap. of the dept. of Puy-de-Dôme (the *Augustonemetum* of the Romans, in the country of the Arverni). It is finely situated on a gentle elevation between the rivers Bedat and Allier, at the foot of a range of extinct volcanoes, crowned by the peak of Puy-de-Dôme, about 5 m. from the town. It consists of the two towns of C. and Montferrand, upward of a mile apart, and connected by a fine avenue of trees. C. contains several remarkable buildings; the old Gothic cathedral, the corn and linen hall, the theatre, and the Hôtel-dieu or Hospital. C. has several educational and scientific institutions, and a public library, in which are preserved some curious MSS. The people carry on the manufacture of linen, woolen cloth, hosiery, paper, etc., and an extensive traffic in the produce of the district, and in the transit trade between Paris and the s. of France. There are two mineral springs in the town, which are used for bathing. That of St. Alyre is most remarkable, having deposited in the course of ages an immense mass of limestone; and the deposit at one part forms over a rivulet a natural bridge 21 ft. long. The whole district abounds in such springs. A multitude of Roman antiquities attest the Roman origin of the city. In the middle ages C. was the residence of the counts of the same name, and became the seat of one of the oldest bishoprics of France. Several ecclesiastical councils were held here; the most remarkable, 1095, at which the first Crusade was instituted by Urban II. A statue has been erected to Pascal, a native of Clermont. Pop. (1901) 52,933.

There are in France several other towns named Clermont,

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CLERUS, *klēr'üs*: genus of insects of the order Coleoptera, section Pentameria, and of the great family or sub-section Serricornes. They are beautiful beetles, generally found on flowers, often on those of umbelliferous plants, but their larvæ feed on the larvæ of different kind of bees; those of *C. apiarius* on the larvæ of the hive-bee. The insect is about half an inch long, greenish, the wing-cases scarlet with purplish blue bands. How the larvæ of this and other insects should be able to carry on their ravages with impunity in a bee-hive, has never yet been explained.

CLÉSINGER, *klā-zäng-zhā'*, JEAN BAPTISTE AUGUSTE: 1814–1883, Jan. 6; b. Besançon: French sculptor. He studied at home and in Italy, married George Sand's daughter, and won notice 1844 by a bust of Scribe the dramatist. He exhibited his *Faun* and *Melancholy* 1846, *Girl Bitten by a Serpent* 1847, and a colossal bust of *Liberty*, presented to the provisional govt. 1848. Among his later works are statues of Rachel as *Phaedra* and *Lesbia*, of *Tragedy* at the Théâtre Français, of *Sappho*, a *Gypsy Girl*, *Cornelia and her Children* (1861), and *Cleopatra* (1869); equestrian figures of Napoleon I., Francis I. (1854), and Francis Joseph of Austria (1873); busts of Charlotte Corday, George Sand, the Czar and King of Prussia (1867), and Gen. Cissey. C. followed Canova in the use of color and of picturesque effects, but was thought to carry this classical revival too far. He died in Paris.

CLEVELAND, *klev'land*: city; port of entry; and cap. of Cuyahoga co., O.; on Lake Erie and both banks of the Cnyahoga river, and on the Cleveland Canton and Southern, the Cleveland Lorain and Wheeling, the Cleveland Cincinnati Chicagoa and St. Louis, the Cleveland Term. and Valley, the Erie, the Lake Shore and Michigan Southern, the New York Chicago and St. Louis, and the Pennsylvania railways, and the Ohio canal; 138 m. n.e. of Columbus, 255 m. n.e. of Cincinnati; about 36 sq. miles.

Plan and Surroundings.—It is built in a valley and on plateaus, the site being not unlike an open fan extended to cover a little more than half a circle, the shore of the lake forming the chord, about $9\frac{1}{2}$ m., the general direction being n.e. and s.w., with a bend toward the w. near the w. end. The surface on both sides of the river is depressed, making a low and nearly level valley which affords excellent locations for the iron ore, coal, and lumber trades, and for shipping, shipbuilding, and general manufacturing. Bordering this valley the city extends e. and w. over nearly level plateaus, about 80 ft. above the level of the lake and river, and these sections constitute the choicest residence portion of the city. Besides many streets passing through the valley over numerous bridges, these plateaus are connected by five high, level viaducts, from less than 1,000 ft. to more than 3,000 ft. in length, accommodating pedestrians, vehicles, and electric street railways. On these plateaus, and especially the e., near the valley, are the streets used principally for trade and light manufacturing. Many of the residence streets are wider than those ordinarily found in large cities, and their beauty is greatly enhanced by spacious lawns. As far as the re-

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quirements of business and thoroughfares would permit, the forest in which the city was originally laid out has been preserved, whence C. is happily distinguished as the 'Forest City.' On each side, excepting the lake front, the city merges into numerous attractive suburbs. In the business section, the wholesale trade is found principally on Merwin and River streets, near the river, and on Water, Bank, Seneca, and St. Clair streets, on the e. plateau; and the retail trade on Superior, Ontario, Cedar, Central, Woodland, Broadway, Pearl, Lorain, and Detroit. Euclid ave. is widely noted for its magnificent residences and their surroundings of broad lawns, noble trees, shrubbery, and statues. Prospect, parts of Superior, Wilson, Broadway, Jennings, Franklin, and Detroit streets also contain many effective examples of residence architecture.

Harbor.—The windings of the Cuyahoga river afford (1897) nearly 20 m. of dock front, supplemented by numerous commodious slips constructed for the ore, coal, and lumber trades. To facilitate entrance to the river and provide a harbor of refuge and anchorage for shipping, the federal govt. has constructed long breakwaters in the lake on each side of the river's mouth, aggregating 9,000 ft. of protecting works, at a cost of \$1,673,631, and congress has sanctioned the completion of the improvement of the harbor and river at an estimated cost of \$1,300,000. The plans provide for 3,000 ft. additional of protective work, which will give the city a harbor area of about 800 acres.

Public Parks.—The natural attractiveness of the city is enhanced by a system of public parks, acquired by purchase and gift, and developed on a plan for which the city makes generous provision. Of 16 such parks aggregating 1,208 acres, 8 vary from 80 to 278 acres each, and 8 from $\frac{1}{2}$ to 10 acres. Two of the large parks, Gordon on the e. side, and Edgewater on the w., together with a small park, Lake View, border on Lake Erie, and have fine views, drives, and bathing facilities. Wade Park, separated from the grounds of the Western Reserve Univ. by Euclid ave., in addition to the beauties of extensive walks and drives, contains the public zoological gardens. This park was laid out and maintained by a citizen of the same name till 1882, when he presented it to the city, and William J. Gordon's private park was acquired by the city through the owner's bequest in 1892. The Square, or Monumental Park, is on high ground a short distance from the lake and e. of the river, and the grouping in its vicinity of the federal, county, and municipal buildings makes it the natural business centre of the city. All the thoroughfares to the city enter streets which lead directly to this centre, and from it radiate the main street railways. This park contains the soldiers' and sailors' monument, a small granite and marble temple surmounted by a minaret-like column of marble supporting a large bronze figure of liberty, and flanked on four sides by pedestals bearing bronze groups typifying the various arms of the military service. The interior contains bronze portrait busts and reliefs and entablatures giving the names of the Union soldiers and sailors from Cuyahoga county. Situated in the Square

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also is a statue of Gen. Moses Cleaveland, the founder of the city, a bronze figure in Continental dress on a circular granite pedestal; and a stone auditorium for public meetings. In Wade Park is a marble monument to Com. Perry, the hero of Lake Erie, a figure of the officer beside a ship's capstan with figures of two midshipmen near by, and a circular relief showing Perry being rowed from his disabled flagship. Another monument of more than national interest is that at the place of entombment of Pres. Garfield in Lake View cemetery. The edifice is a combined mausoleum and monument of stone, consisting of a high tower with conical roof and inclosed portico erected on the apex of a series of terraces. The remains of the pres., in a bronze casket, rest on a pedestal in the crypt. In the centre of the large circular room above is a marble statue of the pres., and the walls and galleries, lighted by stained glass windows, are decorated with emblematic and allegorical figures and groups in mosaic.

Municipal Improvements.—In 1896 the city had 562 m. of improved streets, of which 121 m. were paved. It was lighted by three large gas and several electric plants, all owned by private corporations. The sewerage system, with 234 m. of sewers, was then a simple gravity plant because of the natural drainage, and the sewerage readily flowed out to the lake current. The extension of the city to the e. and the improvement of the river's mouth presented radical conditions for the future which were engaging the best engineering thought. The system of water supply is owned by the city; the income from water rents 1895 was \$576,173; and the water debt, 1896, Oct. 1, was \$1,796,094. Water is obtained from the lake through an intake protected by a crib about $1\frac{1}{2}$ m. from the shore and about as far to the w. of the entrance to the harbor. From the crib the water flows through two tunnels of a daily capacity of 120,000,000 gals. to the pumping station on Division street, where there are 6 pumps of the horizontal, direct-acting type, having a combined pumping capacity of 85,000,000 gals. daily. The water is supplied to consumers through 5 large mains, which at intervals are connected with each other and with distributing mains, and are continued as two mains to the low service reservoir, 6 m. e. of the pumping station. The reservoir is divided into two basins and has a capacity of 80,000,000 gals. Toward the close of 1896 work was begun on an extension of the system, involving the construction of a new intake, about 4 m. out, a tunnel, and a pumping station near the shore and 2 m. e. of the river; these to be followed in turn by an addition which will extend the existing tunnel on the w. side of the city to a new intake, also about 4 m. out.

Notable Buildings.—The principal public buildings are the United States govt. building and county building on the Public Square front; city hall; new building of the Case School of Applied Science; Adelbert College for women; Music Hall; Union Railway Depot; House of Correction; Northern Insane Asylum; new Y. M. C. A. building; Cleveland Medical College; nearly a dozen churches that cost from \$75,000 to \$150,000 each; several public

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schools; Public Library; Lake Side Hospital; U. S. Marine Hospital; City Hospital and Infirmary; a number of office and newspaper buildings; Masonic temple; Knights of Pythias temple; armory of the national guard; the Arcade; and the Sheriff-street market. In 1896 there were 60 bridges and viaducts, 12 police precinct stations, 5 patrol stations, 25 fire stations, 12 large hotels, 7 theatres, 14 hospitals, 7 dispensaries, and 13 asylums and homes.

Churches.—In 1896 there were over 275 churches and missions, which included 33 Rom. Cath.; 32 Meth. Episc.; 25 Congl.; 23 Bapt.; 18 Prot. Episc.; 16 Presb.; 14 Evang. Luth.; 12 Jewish; 11 Evang. Assn.; 10 Ref. in the U. S.; 9 Disciples of Christ; 9 Unit. Evang.; 6 Unit. Brethren; 3 Friends; 2 Dutch Ref.; 2 Free Bapt.; 2 Unit. Presb.; 1 each, Free Meth. and Univ.; and 40 miscellaneous. The Rom. Cath. Church had a monastery, 7 convents, and the Cathedral of St. John the Evangelist, besides 3 hospitals, House of the Good Shepherd, House of Maternity, 2 female orphan asylums, a male orphanage, and a number of charitable and educational institutions. The city was the residence of the Prot. Episc. bishop of the diocese of O., and constituted a Rom. Cath. diocese. Other notable churches were Trinity and St. Paul's (Prot. Episc.); Plymouth and First Congl.; Woodland Ave., Old Stone, Calvary, and Second Presb.; Euclid Ave. Bapt.; and First Meth.

Education.—The first public high school in the United States was established here 1846. At the close of the school year 1901 there were 109,047 children of school age in the city, of whom 59,635 were enrolled in the public schools, and about 16,000 in denominational, parish, and private schools. There were 69 buildings used for public school purposes; 1,242 teachers; public school property of an estimated value of about \$5,140,659; receipts, \$1,896,882; and expenditures aggregating \$1,933,966. The high schools numbered 5; endowed private secondary schools, 4; and there were a normal training, 2 manual training, and 2 cooking schools, and 6 business colleges. The principal institution for superior education is Western Reserve Univ., an outgrowth of Adelbert College, founded at Hudson 1826 under the name of Western Reserve College. In 1882, having received a conditional gift of \$500,000 from the late Amasa Stone, of C., it was moved to that city and its name changed as at present. In 1896 the univ. comprised Adelbert College (academical dept.), College for Women, colleges of medicine, law, and dentistry, a graduate dept. (opened 1892), and a preparatory and classical school at Hudson. The Case School of Applied Science is an important technical school, endowed with a gift of \$1,250,000 by the late Leonard Case, and having a library of 45,000 vols. C. has a Rom. Cath. theological seminary, St. Mary's, and, besides the medical college of Western Reserve Univ., the medical dept. of the Univ. of Wooster, and a homœopathic medical college. The libraries comprised the Public, with 3 branches and 97,000 vols.; the Case; Western Reserve Univ.; Western Reserve Historical Soc.; the Law; and 9 smaller ones. In

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1896 there were reported 10 daily, 44 weekly, a semi-monthly, 24 monthly, and 2 quarterly periodicals.

Finances.—The bonds and notes outstanding 1903, Feb. 1, and including the water debt, aggregated \$17,976,-366.05, and bonds toward city hall debt, \$700,000, making the gross public debt \$18,676,366. Deducting the water debt, \$3,287,000, payment of which is specially provided for, and all sinking funds \$3,758,316.15, left a net debt of \$10,931,049.85. The city had a total assessed valuation 1901 of \$196,453,645, the highest figure it had ever reached, and the tax rate was \$26.70 per \$1,000. The annexation of several adjoining towns to the city 1895, and the assumption of their liabilities caused an increase in the public debt.

Banking.—On 1896, July 14, the city had 12 national banks, with a combined capital of \$9,550,000; United States bonds on deposit \$1,460,000; loans and discounts \$27,502,575; coin and coin certificates \$2,803,334; total deposits \$22,256,866; reserve \$5,492,056; ratio of reserve 24.68 per cent. During the year ending 1895, Sep. 30, the exchanges at the United States clearing-house here aggregated \$284,952,376, an increase of \$52,646,044 over the total of the previous banking year. On 1902, Sept. 15, there were 16 national banks, with a capital of \$12,400,-000, and in the year ending Sept. 30, the exchanges at the United States clearing-house aggregated \$749,470,-620.

Commerce.—The city has very large coal, iron, lumber, and general mercantile shipping interests by both water and rail. The fleet registered at the custom-house is valued at from \$15,000,000 to \$20,000,000, and it is claimed that the city ranks second in the United States in the value of its floating property. In the foreign trade of the year ending 1895, Dec. 31, the imports of merchandise had aggregate value \$1,528,914, on which \$594,467 duty was collected, and exports, \$862,890. The foreign and domestic imports of merchandise aggregated \$26,178,348, and exports \$19,150,773. In both trades the shipping entrances were: American sailing vessels 1,142, tonnage 697,259; foreign sailing 153, tonnage 34,256; American steam vessels 2,144, tonnage 2,038,630, foreign steamer 324, tonnage 59,217—total vessels 3,763, total tonnage 2,-829,362. The trade has steadily increased. In 1902 the imports were valued at \$3,194,233, and the exports, \$3,376,296. C. ranks among the first of lake ports.

Other Business Interests.—The city is justly noted for its great coal and ore docks, made practicable by the improvement of the harbor. Local reports show 1895, Dec. 31, a shipment of 1,278,627 tons of coal and the receipt of 2,468,919 tons of ore. In ship-building the city leads the country, owing both to its exceptional facilities and the remarkable increase of lake traffic which demands modern vessels of the highest type. The largest, fastest, and most palatial steamer on the Great Lakes was built here.

Government.—Under acts of the legislature 1891-2 the forms of municipal and school govt. were modified after the federal plan. The legislative authority is vested in a council of two representatives from each of the 11 dis-

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tricts; and the executive in a mayor and a cabinet of 6 directors having charge of the depts. of law, public works, police, fire, accounts, and charities and corrections. The mayor is responsible for the administration of each dept., has a limited veto power, and he and the directors constitute an advisory council. The public schools are governed by a council of 7 members elected at large, the executive control being vested in a director, also elected at large, who appoints the supt. and all employees excepting teachers. Teachers are appointed by and responsible to the supt., and he and all other employees are responsible to the director. The director has a limited veto, and takes part in the proceedings of the council.

History.—C. was settled 1796, July, under the direction of Gen. Moses Cleaveland, agent of the Connecticut Land company, who brought with him in a small coasting vessel a company of settlers from Connecticut. The site was in the 'Western Reserve' of land apportioned to the state of Conn., and the first building was a rude cabin erected near the mouth of the river to receive the stores of the settlers. Gen. Cleaveland had the site surveyed, reserved a green or square and certain adjoining lands for public purposes, located wide streets in the forests contiguous to the public square, and sold lots of two acres each to the following 'first proprietors': Richard M. Stoddard, Job B. Stiles, Joseph Landen, Nathan Chapman, Wareham Shepherd, and Mr. Baum. The growth of the settlement was at first very slow. In 1805 the first post-office was established and the settlement made a port of entry; 1809 it was made the co. seat; 1811 the first library was opened; and 1814 the place was incorporated as a village. The first bank was opened 1816; the first public school building acquired 1817; the first steam vessel arrived and the first newspaper was published 1818; and the first vessel was built 1824. In 1827 the Ohio canal was opened from C. to Akron, and 1832 it was completed to the Ohio river. The early settlements were naturally on and near the banks of the river, and in course of time the village became divided in local interests, the portion on the e. side of the river retaining the name of C., and that on the w. side assuming the name of Brooklyn. The rivalry of the two parts gained in strength, and the separation of the former common interests became so distinct that the legislature 1836 incorporated the part on the e. side as the city of C. and that on the w. as Ohio City. In 1854 the two cities were consolidated under the name of C. and with an estimated joint pop. of 33,000.

Population.—(1810) 547; (1850) 17,034; (1860) 43,417; (1870) 92,829; (1880) 160,146; (1890) 261,353; (1896, local estimate) 375,000; (1900) 381,768.

CLEVELAND, *klev'land* (Cliff-land): mountainous district, of Yorkshire, Eng., between Whitby and the Tees. The discovery of iron ore in 1840 converted a wild picturesque country into one of the greatest manufacturing districts of Eng. producing about one third the total iron ore of the country, see **MIDDLESBOROUGH**.

CLEVELAND, GROVER: 24th President of the United States; born Caldwell, N. J., 1837, Mar. 18. He received an academical education in Fayetteville and Clinton, N. Y.; became an asst. teacher in the New York Institution for the Blind 1853; removed to Buffalo and began studying law 1855; and was admitted to the bar 1859. In 1863 he was appointed asst. dist.att'y. of Erie co., and held the office for three years; and 1865 was defeated as democratic candidate for dist.att'y. He was a law partner of Isaac V. Vanderpool 1865-69, then went into the new firm of Lanning, C. & Folsom, and was in active practice till 1870, when he was elected sheriff of Erie co. Retiring from this office 1873, he formed a partnership with his intimate friend and political antagonist who had defeated him for dist.att'y., Lyman K. Bass, and another friend, under the firm name of Bass, C. & Bissell, subsequently C. & Bissell. In 1881 he was elected mayor of Buffalo by the largest majority ever given a candidate in that city. At the beginning of his administration he used the veto power freely, and within six months had saved the city nearly \$1,000,000 by thus checking unwise or extravagant expenditures. In 1882 he was elected gov. of N. Y. after a most exciting canvass, receiving a total vote of 918,894, a plurality over his republican opponent, Charles J. Folger, sec. of the U. S. treas., of 194,854, and a majority over all opposing candidates of 151,742. As gov. he used his veto prerogative as freely as when mayor. While occupying the gubernatorial chair he was nominated by the national democratic convention at Chicago 1884, July 11 by a vote of 683 out of 820 as candidate for the presidency, and the nomination was subsequently made unanimous. The canvass that followed was unusually exciting. Four candidates were nominated: C. by the democrats, James G. Blaine (q.v.) by the republicans, Benjamin F. Butler (q.v.) by the labor and greenback parties, and John P. St. John (q.v.) by the prohibitionists. The chief interest centred on the democratic and republican candidates; there was a large defection of republicans from the candidate of their party; and the personality of the leading candidates rather than distinctive national issues was largely the basis of campaign discussions. Of the total popular vote 10,067,610, C. received 4,874,986, Blaine 4,851,981, Butler 175,370, St. John 150,369, scattering 14,904. In the electoral college C. carried Ala., Ark., Conn., Del., Fla., Ga., Ind., Ky., La., Md., Miss., Mo., N. J., N. Y., N. C., S. C., Tenn., Tex., Va., and W. Va.; total electoral vote 219. Blaine carried Cal., Colo., Ill., Io., Kan., Me., Mass., Mich., Minn., Neb., Nev., N. H., O., Or., Penn., R. I., Vt., and Wis.; total 182; C.'s majority 37. His cabinet appointments were: Thomas F. Bayard, sec. of state; Daniel Manning, sec. of the treas.; William C. Endicott, sec. of war; William C. Whitney, sec. of the navy; William F. Vilas, postmaster-gen.; Augustus H. Garland, atty.gen., and Lucius Q. C. Lamar, sec. of the interior. He observed the same methods of administration as pres. as he had when mayor and gov., and vetoed 115 bills out of 987 that

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passed both houses of congress during the first full session that followed his inauguration, and nearly all (102) were private pension bills. He declared that public office was a public trust, advocated a thorough reform in the civil service, and announced that removals from office would be made only for incompetency and offensive partisanship. 1886, June 2, he was married in the White House to Frances Folsom, daughter of his former law partner. His vetoes of private pension bills aroused a strong feeling against his administration in G. A. R. circles. His annual message Dec., 1887, was wholly devoted to the tariff question, advocating free raw materials and a general reduction of duties. His declaration that unnecessary taxation is unjust taxation was taken up as his party's campaign cry, and C. was unanimously renominated June 8, 1888, at St. Louis. The republicans accepted the challenge, and the tariff was the vital issue of the campaign, resulting in the defeat of C. by Harrison. (See PRES. AND VICE-PRES., ELECTIONS OF.) After his retirement C. removed to New York and resumed the practice of law. 1892, June 23, at Chicago, he was for the third time nominated by the democrats, receiving $617\frac{1}{2}$ votes to 114 for David B. Hill (N. Y.), 103 for Horace Boies (Io.), $36\frac{1}{2}$ for Arthur P. Gorman (Md.), and 14 for John G. Carlisle (Ky.). Again the tariff question was the chief issue of the campaign, and C. was elected, carrying 23 states, including Ill., Ind., and Wis. The republicans nominated Benjamin Harrison, the people's party James B. Weaver, the prohibitionists John Bidwell, and the socialist labor party Simon Wing. Of the total popular vote, 12,059,351, C. received 5,556,918, Harrison 5,176,108, Weaver 1,041,028, Bidwell 264,133, and Wing 21,164. C.'s plurality 380,810. In the electoral college C. received 277 votes, Harrison 145, and Weaver 22. On retiring from office, C. took residence in Princeton, N. J. The country suffered in 1893 from one of the most serious financial panics in its history, brought on, according to republicans, as the result of the election of C., and according to democrats, as the result of unwise republican legislation which brought the silver question to the front. C. called an extra session of congress 1893, Aug. 7, to deal with the finances, strongly urging the repeal of the Sherman law, which was accomplished chiefly through the uncompromising attitude of the president. The vigorous and unusual efforts made by C. to secure the passage of a tariff bill in accordance with his convictions, met with such poor success that he refused to sign the Wilson-Gorman bill, which became a law 1894, Aug. 27, without his signature. The controversy over his foreign policy, particularly his treatment of the Hawaiian question, was very bitter. The number of government employés coming under the civil-service rules was greatly increased during his second administration. Business depression, which always injures the party in power, and popular disapproval of congressional action, vigorously expressed by C. himself, brought about overwhelming democratic defeat in the Nov. elections of 1894 and 1895, and placed the legislative branch of the government in republican control during the second half of his administration.

CLEVER—CLICHY.

CLEVER, a. *klēvēr* [said to be a corruption of OE. *deliver*, quick, nimble—from OF. *delivre*, free, prompt; prov. Dan. *klever*, clever: comp. Gael. *gle-mhōr*, very great or excellent]: done with sufficient excellence to commend itself; smartly able to turn one's attainments to the best account; skilful; ingenious; smart; not dull; ready. CLEV'ERLY, ad. -*lī*, skilfully; dexterously. CLEV'ERISH, a. somewhat clever. CLEV'ERNESS, n. the quality of being clever. SYN. of 'clever': skilful; dexterous; adroit; expert; able; apt; ingenious; OE. handsome; smart.

CLEVES, *klēvz* (Ger. *Kleve*): town of Rhenish Prussia, 48 m. n.w. of Düsseldorf; on three gentle elevations, about $2\frac{1}{2}$ m. from the Rhine, with which it communicates by canal, in the midst of a rich and beautiful country. It has a fine old castle, built partially on a commanding rock, in which Anne of Cleves, one of the wives of Henry VIII., was born, and which is now converted into public offices. in the collegiate church, which dates from the 14th c., are some good monuments to the counts of Cleves. C. has manufactures of woolen and cotton fabrics, silks, hosiery, tobacco, etc. Pop. (1880) 10,000; (1890) 10,409.

The ancient duchy of C., extending along both banks of the Rhine, passed 1614 to the reigning house of Prussia.

CLEVIS, *klēv'is*, or CLEVY, n. *klēv'i*: a draft-iron for a plow; a piece of iron bent to the form of an ox-bow, having the ends bored to receive a pin.

CLEW, n. *klō* [AS. *clīwe*, a clew, a hank: Dut. *kluwen*, and *cluwen*, a ball of yarn, a clew connected with W. *clob*, a hump: L. *glomus*, a ball of twine]: a ball of thread; the thread which forms the ball; anything that guides or directs in an intricate case (usually spelled *clue*); one of the corners of a sail, the lower corner of a square sail, and the aftermost lower corner of a stay-sail: V. to truss up the sails of a ship to the yard. CLEW'ING, imp. CLEWED, pp. *klōd*. CLEW-LINES, lines to truss up sails to the yards, those applied to the courses or largest sails of a ship are called *clew-garnets*.

CLEW BAY: inlet of the Atlantic, on the w. coast of co. Mayo, Ireland, 15 m. long by 8 m. wide. Some of the mountains on the n. rise 1,200 to 2,500 ft., but the land on the e. is lower, and leads to Westport, Newport, and Castlebar. Old red sandstone, carboniferous limestone, and Cambrian strata form the shores of the bay, which are generally bold and rocky, but have many small harbors and fishing-stations. The upper part of the bay is an archipelago containing 300 fertile and cultivated islets. At the entrance of the bay is Clare Isle, 4 $\frac{1}{2}$ by 2 m., composed of old red sandstone and Cambrian rocks; and rising 1,520 feet.

CLICHÉ, *kle-shā'* [F.]: impression made by a die in melted tin, or other fusible metal. It is the proof of a medallist's or die-sinker's work, by which they judge of the effect, and ascertain the stage of progress which they have reached before the die is hardened. The same term is applied by the French to stereotype casts from wood-cuts.

CLICHY, *klē-shē'*: town of France, dept. of Seine, about four m. n.w. of Paris, of which it is a suburb. It has manu-

CLICK—CLIFF-DWELLERS.

factures of white-lead and chemical products. Pop. (1881) 24,320; (1886) 26,741; (1891) 30,698.

CLICK, n. *klik* [an imitative word: Dut. *klicken*, to rattle: F. *cliquer*, to clap]: a sharp sound louder than a *tick* and thinner than a *clack*; a quick, light sound; a small piece of iron falling into a notched wheel: V. to strike louder and fuller than a *tick*; to make a quick, light sound. **CLICK'ING**, imp. **CLICKED**, pp. *klikt*. **CLICK'ER**, one who stands at the door to invite passers by to enter a shop.

CLICK'-BEETLE: popular name of many species of coleopterous insects of the tribe *Elaterides* (see **ELATER**), parents of the destructive larvæ well known to farmers by the name of **WIRE-WORMS** (q.v.). They derive the name C. from the sound which they make when, being laid on their back on any hard substance, they regain their feet by a spring, in the manner characteristic of the tribe to which they belong. **SKIP-JACK** is another popular name for them. The striped C. (*Agriotes* [*Cataphagus* or *Elater*] *lineatus*) is the parent of a very destructive kind of wire-worm.

CLIENT, n. *kli'ēnt* [F. *client*—from L. *clien'tem*, one who had a patron: comp. Gael. *clann*, children; *cluinnte*, heard, or one who has been heard]: one who applies to a lawyer for advice, or to conduct his cause in a court of law; a dependent. **CLI'ENTSHIP**, n. the condition of a client. **CLIENTÈLE**, n. *kli'ēn-tēl* [L. *clientēla*, the condition of a client in reference to his patron: F. *clientèle*]: the state or condition of a client; the business of a professional man; the number of his clients or patients.

CLI'ENT: see **AGENT AND CLIENT**: also **PRINCIPAL AND AGENT**: **PATRON**: **COUNSEL**.

CLIFF, n. *klif* [AS. *clif*, a rock: Icel. *kleif*—from *kliufa*, to cleave: Ger. *kluft*, a cavern, a cleft: Dut. *kleppe*; Dan. *klippe*, a rock]: a steep bank; a high and steep rock. **CLIF'FY**, a. *fī*, steep, broken, and rugged.

CLIFF, in Music: see **CLEF**.

CLIFF-DWELLERS, in American Archeology: the race which built and inhabited certain remarkable structures discovered in s.w. Colorado and the neighboring portions of the adjoining territories. These structures are situated in the valleys or cañons of the Mancos, McElmo, and San Juan rivers, and were first discovered 1874, Sep., by a small party of explorers connected with the U. S. Geological and Geographical Survey, and under the command of Mr. W. H. Jackson. The cliffs along these rivers are of sandstone, having almost perpendicular walls marked by narrow horizontal clefts and ledges at various elevations. Upon these ledges, in almost inaccessible situations, often at a height of several hundred ft. from the base of the cliff, small stone houses of superior workmanship were found, which had evidently been the homes and refuges of a somewhat advanced race long vanished from the region. Subsequent explorations have brought to view a large number of these nest-like dwellings, together with watch-towers and ruins of other structures. It is supposed that the C. were ancestors of the present Moquis of Arizona.

CLIFFORD—CLIFTON.

CLIFFORD, *klifford*, NATHAN: 1803, Aug. 18—1881, July 25; b. Rumney, N. H. He was educated at Haverhill and Hampton, N. H., and on his admission to the bar settled in York co., Me., 1827. He was in the legislature 1830–34, and speaker 1832–34; attorney-gen. of Me. 1834–38; in congress as a democrat 1839–43, making speeches for Van Buren in the campaign of 1840; U. S. attorney.gen. under Pres. Polk 1846–47, and 1848–49 commissioner and minister to Mexico: in the last capacity he arranged the cession of Cal. Pres. Buchanan made him an associate justice of the U. S. supreme court 1858. He published *U. S. Circuit Court Reports* (2 vols. Boston, 1869). As the oldest judge he presided over the electoral commission 1877. He died at Cornish, Maine.

CLIFFORD, *klifford*, WILLIAM KINGDON, F.R.S.: 1845, May 4—1879, Mar. 3; b. Exeter, England: prof. of applied mathematics and mechanics at Univ. College, London; one of the foremost mathematicians of his time. He was educated at a school in his native town, at King's College, London, and at Trinity College, Cambridge. While at Trinity, he did not confine himself to examination subjects, but read largely in the great mathematical writers, and was second wrangler in the mathematical tripos of 1867. At this time, while excelling in gymnastics, he would also solve and propound problems in the pages of the *Educational Times*, and could discuss with ease complicated theorems of solid geometry without the aid of paper or diagram. A high-churchman at first, C. before taking his degree threw off all restraints of conventional theology, and discussed with eagerness yet with undoubted sincerity, and in an almost pathetic spirit of disbelief, some of the deepest questions presented by Christianity. In 1871, Aug., he was elected to the chair of mathematics and mechanics at Univ. College, London, which post he retained until his untimely death at Madeira. C. established his reputation as an original thinker with the faculty of expressing scientific thought in plain and simple language, first by a lecture at the royal institution, *On Some of the Conditions of Mental Development*. He was a valued member of the London Mathematical Soc., contributing to the *Proceedings*; for a time he acted as sec., and afterward vice-pres. of the mathematical and physical section of the British Assoc.; he also lectured to the Sunday Lecture Soc. on such subjects as *Ether*, *Atoms*, and *the Sun's Place in the Universe*. The versatility of his mind for philosophical and scientific discussion was further shown by his varied contributions to periodical literature. Besides these articles, he issued the first part of a larger text-book, *Elements of Dynamic* (1878). A selection from his *Mathematical Papers* appeared 1881.—See Clifford's *Lectures and Essays*, edited by Stephen and Pollock, 1879.

CLIFT, n. *klift*: same as CLEFT, which see.

CLIFTON, *klifton*: beautiful and favorite Eng. watering place in the s. w. of Gloucestershire, forming the western suburb and part of the parliamentary borough of

CLIFTON—CLIMACTERIC.

Bristol. It is built on the sides and top of a carboniferous limestone hill, 308 ft. high; commands fine picturesque views; and is separated from a similar cliff by a deep chasm on the s., through which flows the navigable Avon. The rock abounds in fossils and quartz, or Bristol diamonds. It has a tepid spring of 73° F., which contains carbonic acid and salts of magnesia, and was brought into notice about 1695; but the former popularity of the spa has declined, and the pump-room has been destroyed. At the time of the great Lisbon earthquake this water became red, and the Avon, which rises here 35 ft. at high water, suddenly turned black. On Clifton Down are some remains of a Roman camp, 510 by 300 ft. An extensive camp is in good preservation on the opposite side of the gorge, with which C. is connected by a suspension bridge, 275 ft. above low water, and 702 ft. in span. C. College ranks among the best English schools: See BRISTOL.

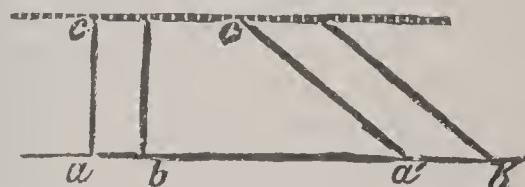
CLIFTON, *klifton*: village of Welland co., Ontario, Canada, on the Niagara river; on the Erie and Niagara railroad, and the e. terminus of the Great Western railway. Here is the suspension bridge, 1 m. below the falls. C. has a museum, several hotels, and a large export trade to the United States. Pop. 2,347.

CLIFTON SPRINGS: village of Ontario co., N. Y., on the Auburn branch of the N. Y. Central railroad, 10 m. e.n.e. of Canandaigua. It has extensive sulphur springs, near which a large sanitarium has been built. It has four churches, a school, and a newspaper. Pop. (1879) 746; (1880) 902; (1890) 1,297; (1900) 1,617.

CLIMACTERIC, n. *kli-mäk'tér-ik* or *klim'äk-tér'ik* [Gr. *klimaktēr*, a step, as of a ladder]: one of the supposed critical steps or periods in human life in which some great change is by some deemed to take place in the human constitution: the mystical number 7 and its multiples (e.g. 35, 49) have been thought to mark the years of age for such crises: ADJ., also CLIM'ACTER'ICAL, a. *-tér'ik-kul*, pertaining to or connected with; critical. GRAND CLIMACTERIC, the age of 63 (7×9) in man, after which the constitution is supposed to decline, and old age begin. The theory, whether true or not, is not scientifically established.

CLIMATE.

CLIMATE, n. *kli'māt* [F. *climat*, a climate—from mid L. *climātem*: Gr. *klimāta*, slopes, afterward applied to tracts of country, with reference to their supposed inclination to the pole, and the effect of the obliquity of the sun's rays upon the temperature]: the condition of a place or country with respect to the weather that prevails; a region or district of country. **CLIMATIC**, a. or **CLIMATICAL**, a. *-māt'i-kāl*, pertaining to or depending on a climate. **CLIME**, n. *klim*, poetic for *climate*; a region; a country. **CLIMATOLOGY**, n. *-mā-tōlōjē* [Gr. *logos*, discourse]: the science which treats of the different climates of the earth, their causes, products, and peculiarities. **CLIMATOLOGICAL**, a. *-lōj'i-kāl*, pertaining to. **CLIMATIZE**, v. *-tīz*, to accustom to a new climate. **CLIMATIZING**, imp. **CLIMATIZED**, pp. *-tīzd*.—Climate is a term now employed as including not merely the conditions of a place or country with regard to temperature, but also its meteorological conditions generally, so far as they exercise influence on the animal and vegetable kingdoms. The effect of the sun's rays is greatest where they fall perpendicularly on the surface of the earth, and diminishes as their obliquity increases; the surface which receives any given amount of the sun's rays increasing with their increased obliquity, as $a'b'$ is greater than ab in the annexed



figure; while the oblique rays being subjected to the influence of a greater number of particles of the atmosphere, as $c'a'$ is longer than ca , a greater amount of their heat is absorbed before they reach the surface of the earth. The greater or smaller extent of surface receiving a certain amount of heat, also makes important differences to arise from *exposure* by slope toward the equator or toward the nearest pole. *Elevation* is a most important cause of differences of climate. As we ascend from the level of the sea to the greatest mountain altitudes, even at the equator, the temperature gradually diminishes, owing to the diminished density of the atmosphere, and we reach a region of perpetual snow, as in approaching the poles. The progressive diminution of the temperature is, however, affected by many other causes, so that the line of perpetual snow is far from being at the same elevation in all places of the same latitude. Thus, the snow-line on the s. side of the Hymalaya is depressed by the moisture of the aerial currents from the Indian Ocean; and that on the n. side is elevated by the radiation of heat in the vast dry table-lands of central Asia, and the consequent ascending streams of warm, dry air; so that the difference between the two is not less than 4,000 ft. in favor of the *northern* side of the mountain ranges; and Humboldt says, ‘millions of men of Tibetan origin occupy populous towns in a country where fields and towns would, during the whole year, have been buried

CLIMATE.

in snow, if these table-lands had been less continuous and less extensive.' As the actual temperature of the atmosphere depends not so much on the direct rays of the sun as on the radiation from the heated surface of the earth, the diversities in the character of that surface are productive of great effects in modifying climate. A sandy desert, a tract of country clothed with luxuriant vegetation, and an expanse of water, absorb and radiate heat in very different degrees. A newly-plowed field both absorbs and radiates heat much more rapidly than a field covered with grass. A sandy desert heats the atmosphere above it much more than either a fertile tract or a watery expanse, and a watery expanse still less than a fertile tract; but, on the other hand, the desert cools sooner by radiation; while the heat absorbed by the water, being diffused through a larger mass—partly by reason of the motion continually taking place in the fluid substance—and affecting greater depths, the influence of the ocean, of seas, and of great lakes, is very powerful in maintaining a greater equality in the temperature of the atmosphere. Thus maritime places, and particularly islands and peninsulas, have a more equal temperature, with less diversity of the extremes of summer and winter, than more inland or continental places otherwise similarly situated. The effect of the sea is modified by many circumstances, particularly by currents of which the Gulf Stream (q.v.) affords a notable instance, the heated water conveyed by it from the equatorial to the polar regions having a great influence on the C., particularly of the n.w. of Europe. The temperature of Europe is in part dependent also on the warm south winds, which have absorbed heat from the great sandy deserts of Africa; and over the world generally, atmospheric currents must be regarded as exercising even a greater influence on climate than oceanic currents. The quantity of rain or snow that falls in the course of a year, and the times and manner of its falling, are circumstances which have a great effect on climate. These circumstances are much influenced by the distribution of land and water, and by the elevation and character of the surface of the land, which, doubtless, influence also electric and other meteorological conditions, less understood, but certainly not unimportant.

The relations of climate to vegetation are determined not merely by the mean annual temperature, but in a great measure also—and, with regard to many plants, entirely—by the duration and temperature of summer. Thus, maize thrives in climates of which the winter-cold is severe, the summer season alone being sufficient for its whole life; while, on the other hand, such plants as fuchsias, some kinds of laurel, and even the common hawthorn, which thrive where maize would scarcely put forth an ear, would perish from the colder winters of countries where it is profitably cultivated. The polar limit of particular species of animals, except those which hibernate, is generally determined by the degree of winter-cold which they can bear without injury,

CLIMAX—CLIMBING PERCH.

Bogs and marshes have an unfavorable influence on climate, cooling the air and causing fogs, as clay-soils also to some extent do, through their retentiveness of moisture; while marshes of some kinds, and in some situations, abound in exhalations very unfavorable to health. Similar remarks apply to large tracts of forest. The clearing, drainage, and cultivation of land have generally favorable effects on climate; though plantations of trees are often beneficial for shelter; and a complete removal of natural forests may prevent the deposition of moisture from the atmosphere to such a degree as to cause droughts, a result strikingly exemplified in some of the smaller W. India Islands, and the tendency to which is said to be manifest on a great scale in eastern N. America.

See some principal geographical articles: also AGRICULTURE: ARBORICULTURE: ATMOSPHERE: METEOROLOGY: MONSOONS: RAIN: SEASONS: STORMS: TERRESTRIAL TEMPERATURE: TRADE-WINDS: WIND.

CLIMAX, n. *klimaks* [Gr. *klimax*, a staircase, a ladder]: step by step; ascent; a figure of speech in which the sentences present propositions or objects rising, as it were, step by step upward in intensity; summit or culmination.

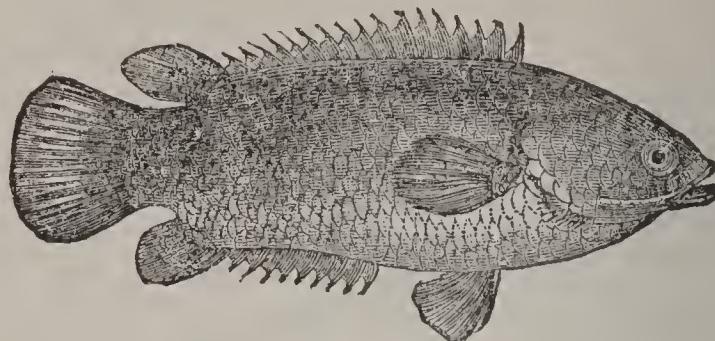
CLIMB, v. *klim* [AS. *climban*, to climb: Dut. *klemmen*, to hold tight: *klimmen*, to climb: Dan. *klgnge*, to cling, to crowd]: to mount upward with the hands and feet, as up a steep hill, precipice, or tree; to ascend with labor, or as a plant by means of tendrils. **CLIMBING**, imp. *klim'ing*: ADJ. possessing the power of climbing, as plants; ascending; tending to climb. **CLIMBED**, pp. *klimd*. **CLIMBER**, n. *klim'er*, one who; a climbing plant. **CLIMB'ERS**, n. plu. *-érs* (*Scansores*): in *ornith.*, an order of birds generally characterized by having two toes before, opposed by two toes behind, so as to adapt their feet for grasping the branch of a tree or any similar object. Many have not two toes permanently directed backward, but have the power of turning one of the front toes backward at pleasure. Some have only three toes, yet on other accounts are unhesitatingly ranked in this order. The families of the climbers, however, differ very much in many respects, although agreeing in the structure of their feet. To this order belong parrots, toucans, trogons, barbets, woodpeckers and cuckoos. It has been objected to the name climbers, that although very descriptive of the habits of some birds of this order, as woodpeckers, it is not very applicable to others, as cuckoos, while there are birds of other orders, as creepers, which possess this habit in the greatest degree; and the name has been changed by some ornithologists into *Yoke-footed* or *Zygodactylous* birds. It is generally the outer front toe which is directed backward in this order; but in the trogons, the first and second toes are opposed to the third and fourth.

CLIMBING FERNS: see FERNS.

CLIMBING PERCH (*Anabas scandens*): the only well-ascertained species of a genus of fishes from which the family *Anabasidae* (q.v.) derives its name. It is a native of

CLIMBING PLANTS—CLINANDRIUM.

rivers and ponds in most parts of the e. Indies. It is about six inches long. In general form, it somewhat resembles a perch, and the resemblance is increased by the large scales and the spiny dorsal fin. That this fish climbs trees



Climbing Perch.

has been asserted by observers whose veracity and accuracy cannot easily be questioned; yet others with ample opportunity of observation express great doubt. In climbing, the fish is said to suspend itself by its spiny gill-covers, and by fixing its anal fin in cavities of the bark, urging its way upward by distending and contracting its body. There is no doubt that it often leaves pools when they are in danger of being dried up, and travels in search of water. Though these fish are sometimes compelled in their distress to travel by day, and have been met in the glare of noon toiling along a dusty road, their migrations are generally performed at night or in early morning, while the grass is still wet with dew. Climbing perches are plentiful in the Ganges, and the boatmen have been known to keep them for five or six days in an earthen pot without water, using daily such of them as they wanted, and finding them as lively as when just caught.

CLIMBING PLANTS, or CLIMBERS: in the most extensive and popular sense, those plants which, having weak stems, seek support from other objects, chiefly from other plants, in order to ascend from the ground. This, however, is accomplished in very different ways. Some climb by means of small root-like processes growing from the stem, as the ivy; some by means of *cirri* or tendrils, which twine round branches of trees, etc. (see CIRRUS); some by adhering disks, of which a beautiful instance is seen in the well-known Virginian creeper; and many by the twining of their own stems around those to which they cling. Twining plants generally turn only in one direction, either from right to left, or from left to right. The scarlet-runner and passion-flower are examples of the former; the honeysuckle and hop of the latter. Twining plants are not always included under the designation climbing plants. The woody twining plants which form one of the most remarkable features of tropical forests, are often called *Lianas* (q.v.)

CLIME, n. *klim* [Gr. *klima*; L. *clima*, a climate]: poetic, and rhetorical for CLIMATE, which see.

CLINANDRIUM, n. *kli-nān'dri-ūm* [Gr. *klinē*, a bed,

CLINCH—CLINICAL.

andrū, a man]: in *bot.*, that part of the column of orchidous plants in which the anther lies. CLINAN'THIUM, n. -*thī-ūm* [Gr. *anthos*, a flower]: in *bot.*, a receptacle of flowers which is not of a fleshy consistency, as in *Compositæ*.

CLINCH, v. *klinsh* [Dut. *klinken*, to clink or rivet: Dan. *klinke*, a rivet: Norm. F. *clanche*; Ger. *klinke*, the latch of a door]: to fix firmly by folding over; to grasp with the hand; to rivet: N. anything which holds both ways; a pun. CLINCHING, imp.: N. the fastening of a bolt or nail by hammering the point so as to make it spread. CLINCHED, pp. *klinsh*t. CLINCH'ER, a. -*ér*, overlaying or overlapping, like slates on a roof—applied to the planking of a ship, as *clincher-work*: N. one who makes a smart or unanswerable reply; the reply itself. CLINCHER-BUILT, or CLINKER-BUILT, *klingk'ér*, applied to a boat or ship whose outside plankings overlie each other like slates on a roof. To CLINCH, or CLENCH THE FIST, to contract the fingers firmly and closely into the palm of the hand so as to form a ball. To CLINCH AN ARGUMENT, to place it in a firm and unsailable position.

CLINCH'ER-BUILT, or CLINKER-BUILT: in *ship-building*, when the lower edges of the side-planks overlap the row next under them, like slates on the roof of a house. If the planks are all smooth, meeting edge to edge, the construction is called *carvel-built*. This construction requires that the seams should be very close, and calked with oakum. Boats are often *diagonal built*; two layers of planking, rising in opposite directions from the keel at an angle of 45°. In iron ships, the clincher arrangement is called *lap-jointed*, and the carvel arrangement, *jump-jointed*.

CLINCH RIVER: in s.w. Va. and e. Tenn. It rises among the hills of Tazewell co., Va., flows s.w. by w. between the ranges of Clinch and Powell Mts., and joins the Holston at Kingston, Roane co., Tenn., to form the Tennessee river. It is about 250 m. long, and navigable by small boats in the lower part:

CLING, v. *cling* [AS. *cliningan*, to shrink or wither: Dan. *klynde*, to cluster: Sw. *klänga*, to clutch, to climb]: to adhere closely; to stick to firmly, as an interest; to hold fast to by entwining or embracing, as in affection; in *OE.*, to dry up or consume. CLINGING, imp. CLUNG, pt. and pp. *klüng*.

CLINGMAN'S DOME, *klüng'manz dōm*: in Jackson co., N. C., on the border of Sevier co., Tenn. It is the highest peak of the Great Smoky Mts., 6,660 ft. above the sea, and next in altitude to the Appalachian Mts. It was named from Thomas Lanier Clingman, who determined its height 1858.

CLINICAL, a. *klin'i-käl*, or CLIN'IC [Gr. *klinikos*, belonging to a bed—from *klinē*, a bed; mid. L. *clinicus*, a physician who visits patients in bed]: pertaining to a bed. CLINICAL LECTURE, instruction given to medical students by a professor at a sick-bed. CLIN'ICALLY, ad. -*lī*, by the

CLINK—CLINTON.

bedside.* CLINIC BAPTISM, in the *anc. church*, baptism administered to a person on a sick-bed or death-bed. CLINIC MEDICINE, department of medicine occupied with the investigation of diseases at the bedside, or individually. CLINOID, *kli'nōyд* [Gr. *eidos*, resemblance]: in *anat.*, applied to certain processes of the sphenoid bone having a supposed resemblance to a couch.

CLINK v. *klingk* [Ger. *klingen*, to tingle: Icel. *kling*, ting-ting; *klingja*, to ring: Dut. *klinken*, to sound, to tinkle: Gael. *gliong*, to ring as metal—*clink* is derived from *clang*, as expressing a shriller sound]: to jingle; to make a small, sharp, ringing noise: N. a sharp ring or jingle of small, metallic bodies, as coins; a sharp metallic knock or knocking. CLINK'ING, imp. CLINKED, pp. *klingkt*. CLINKER, n. *klingk'er* [Dut. *klinker*, that which sounds]: in *min.*, the black oxide of iron; the slaggy, ferruginous crusts that form on the bars of engine-furnaces: PLU. very hard bricks; bricks run together and glazed over by excessive heat. CLINKER-BAR, in a *steam-engine*, the bar fixed across the top of the ash-pit. CLINK-STONE, or PHO'NOLITE, grayish-green felspathic rock, remarkable for its tendency to lamination, which is sometimes such that it affords tiles for roofing. It is a compact homogeneous rock, passing gradually into gray basalt. The slabs give a metallic ring or 'clink' when struck with a hammer, whence its name. It occurs in volcanic districts.

CLINKER-BUILT: see CLINCHER-BUILT.

CLINODIAGONAL, n. *kli-no-dī-āg'o-năl* [Gr. *klinein*, to bend; Eng. *diagonal* (q.v.)]: in *crystal.*, a diagonal or lateral axis in monoclinic crystals, forming an oblique angle with the vertical axis: ADJ. pertaining to or in the same line as the clinodiagonal.

CLINOGRAPHIC, a. *kli-no-grāf'ik* [Gr. *graphō*, I write]: pertaining to a mode of projection in drawing in which the rays are assumed to fall obliquely on the plane of projection.

CLINOMETER, n. *kli-nōm'ē-tér* [Gr. *klinein*, to incline; *metron*, a measure]: instrument for measuring the dip or angle at which strata incline from the horizon. It consists of a compass provided with a small spirit-level; and on the lid—which can be fixed at right angles to the compass-box—there is a small graduated quadrant, and a plumb-line.

CLINTON, *klin'ton*: city, cap. of Clinton co., Iowa; on the Mississippi, 42 m. n.e. of Davenport, 138 m. w. of Chicago by the Chicago and Northwestern railroad, which has its repair shops here. It is the eastern terminus of the Iowa Midland, and connected with Dubuque, n.w., by another railway. The river is crossed by an iron bridge 4,100 ft. long, which cost \$600,000. C. has three banks, four newspapers, a number of churches, several large saw-mills, a paper-mill, foundries, sash and blind factories, etc., besides an extensive general trade. It is a growing manufacturing town. Pop. (1880) 9,052; (1900) 22,698.

CLINTON: manufacturing town of Worcester co.,

CLINTON.

Mass., 45 m. w. of Boston by the Boston and Fitchburg railroad, 16 m. n.n.e. of Worcester by the Worcester and Nashua. The Nashua river supplies water power to a number of establishments, of which the chief are the Lancaster mills, producing ginghams and plaids, and the Bigelow Co., which makes Brussels carpets. There are also cotton mills, and manufactures of wire-cloth, hollow-ware, boots and shoes, and machinery. C. has several churches and schools, a newspaper, and a national bank. Pop. (1870) 5,429; (1880) 8,030; (1900) 13,667.

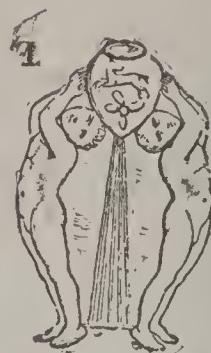
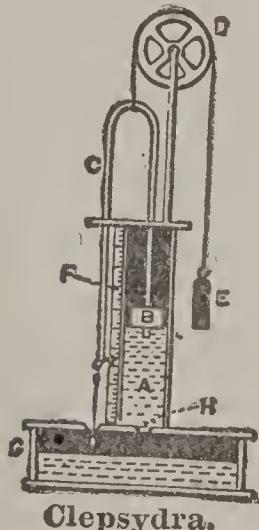
CLINTON: village of Oneida co., N. Y., 8 m. w. by s. of Utica. It is on the Oriskany creek and on the Chenango canal; branch railroads connect it with Utica, Rome, and points to the south. It has a weekly paper, several churches and academies, and stone quarries near. It is noted chiefly as the seat of Hamilton College. Pop. (1870) 1,640; (1880) 1,236; (1890) 1,269; (1900) 1,340.

CLINTON, CHARLES: 1690-1773, Nov. 19; b. co. Longford, Ireland; founder of the Clinton family in America. One of his grandfathers was an officer of Charles I., the other a capt. under Cromwell. With friends he chartered a ship and sailed 1729, May 20, for Philadelphia. The captain endeavored to starve his passengers, and succeeded with some, including two children of C.; the survivors were landed on Cape Cod, Oct. 4. C. settled, 1731, in Ulster co., N. Y., 60 m. n. of New York and 6 m. w. of the Hudson. He became co. judge and lieut.col. of militia, and served with the same rank at the siege and taking of Fort Frontenac, 1758. He died in what is now Orange co., New York.

CLINTON, DE WITT: statesman: 1769, Mar. 2—1828, Feb. 11; b. Little Britain, Orange co., N. Y.; son of James C. and Mary De Witt. He graduated at Columbia College 1786, was admitted to the bar, and at once dashed impetuously into political literature with letters signed 'A Countryman,' in answer to *The Federalist*. This kind of activity he kept up while sec., 1790-95, to his uncle George, then gov. of N. Y., and became a leading champion of the republican or anti-federalist party. He married about 1796 Maria Franklin, who died 1818. He was in the assembly 1797, and in the state senate 1798-1802; here he labored for public defenses, sanitary laws, steam navigation, the abolition of slavery, the relief of prisoners for debt, and the encouragement of agriculture, manufactures, and arts. As a member of the governor's council, 1801, he claimed for that body the coördinate right of nomination to offices: the question was referred to the legislature, and thence to a convention which amended the state constitution to secure the end desired. C. was sent to the United States senate 1802, and there made a strong speech against war with Spain, in view of an excitement over La. and the navigation of the Mississippi. He soon resigned to become mayor of New York, on the appointment of his uncle (now again gov.) and a republican council. This office, which then carried with it the presidency of the council and of



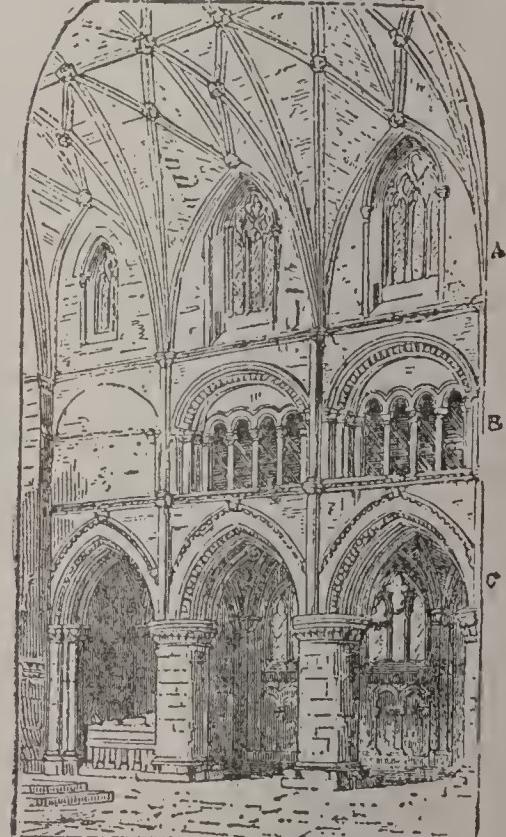
Clerestory (Westminster Abbey).

1, Clepsydra, from an antique seal;
2, Clepsydra, mediæval form.

Clepsydra.



Clio.—Antique statue, Villa Borghese, Rome.



Part of Malmsbury Abbey: A, Clerestory; B, Triforium; C, Arches of the Nave.

CLINTON.

the court of common pleas, he held 1803-7, 1809-10, and 1811-15, being thrice removed and twice reinstated. Not shrinking from the cares of double office, he was also state senator 1805-11, and lieut. gov. 1811-13. On his uncle's acceptance of the vice-presidency and practical retirement from state politics C. became leader of the republican party in N. Y. A vehement partisan, unsparing toward political foes, he had at every stage of his career many bitter enemies; yet it was his curious fate through independence of judgment and action to alienate most of his supporters, and to be in large measure disowned by his party. Not thoroughly in sympathy with Jefferson and Madison, and strongly opposed to the war of 1812, he began to be suspected as a federalist; his standing as a peace candidate for the presidency, 1812, was counted full proof of self-seeking disloyalty. He received 89 electoral votes against Madison's 128: he had apparently staked all upon this issue, and the defeat meant political ruin. With only the mayoralty left, he threw himself into municipal affairs, developed the public school system, bore a leading part in founding the Historical Soc., the Acad. of Fine Arts, and the Literary and Philos. Soc., and sought to improve the criminal laws, to relieve poverty, and in many ways to exercise a large-minded public spirit. He thus made friends and a reputation outside of party, that stood by him in after years, and supported his efforts to compass a larger and more beneficent end. The greatness of the man shone forth when the politician had fallen, seemingly never to rise again. Thrust out of office 1815, Jan., and broken in fortune, he retired to the country, and busied himself with the great work of his life. He had long before taken up his uncle's idea of a canal, had been one of seven commissioners, 1809, to survey a route from the Hudson to the lakes, and had been sent, 1812, by the legislature to urge the project upon congress, which declined to do anything. The war had for a time discouraged any such enterprise, but C. now returned to the charge, and in the autumn submitted to the legislature an able and exhaustive argument and petition for the construction of the Erie and Champlain canals. This was adopted by public meetings in New York and elsewhere, and vigorously enforced by its author, against the opposition of many who derided 'Clinton's folly' and 'the big ditch.' The legislature appointed him a commissioner to make estimates and surveys, and authorized the construction, which began 1817, July 4, the ground being broken by his own hand. He had been carried into the governorship on a wave of popular favor, and through two terms actively urged on the work. He declined a reëlection 1822, and resumed the presidency of the canal board. From this post his political enemies removed him 1824; but their virulence defeated its own end, arousing an indignant feeling which reëlected him by 16,000 majority 1824. The canal was opened with great festivities, Oct. 25, and Gov. C. rode in triumph on a barge from Lake Erie to New York. The immense accession of business, prosperity, and population which came through

CLINTON.

the canal gave him high rank among the benefactors of the state, and even of the nation; for the new water-way directly affected the northwest, and gave the powerful stimulus of example to the undertaking of similar improvements elsewhere. C. declined, 1825, the English mission, offered him by Pres. John Quincy Adams; he was reelected 1826, and died suddenly at Albany while in office. In the history of N. Y. his name stands unrivalled. One of his biographers says that he was considered 'the most rising man in the Union,' 1803; but his strong local patriotism had caused him then to prefer the service of the city to that of the country, and the failure, 1812, of his aspirations toward national leadership concentrated his efforts on the state. His publications consisted of a *Memoir on the Antiquities of Western N. Y.* (1818), *Letters on the Natural History and Internal Resources of N. Y.* (1822), and speeches, addresses, etc., incorporated in W. W. Campbell's *Life* of him (1849). His life was written also by D. Hosack (1829), and Prof. James Renwick (1834).

CLINTON, GEORGE: gov. of N. Y. and fourth vice-pres. of the United States; 1739, July 26—1812, Apr. 20; b. Little Britain, N. Y.; youngest son of Charles C. While a boy he went privateering, and served as a lieut. against Fort Frontenac 1758. He was a member of the colonial assembly from 1768 of the continental congress 1775–76, and of the N. Y. provincial congress 1777; brig.gen. the same year, and gov. of N. Y. by successive elections 1777–95, and again 1801–03. Here his services were eminent both in civil and in military matters, though he had lost the Highland forts 1777, and though, holding to the doctrine of state rights, he opposed the federal constitution, 1788. On a trip taken with Washington and Hamilton 1783, he conceived the idea of a canal between the Mohawk and Wood Creek, which he urged on the legislature 1791, and which was afterward carried out by his nephew. He received fifty electoral votes for pres. 1792, and six 1808. He was in the N. Y. legislature 1801, and vice-pres. of the United States 1805–12, under Jefferson and Madison. His casting vote in the senate defeated the renewal of the U. S. Bank charter 1811, Jan. 24. His energy and force of will made him long paramount in N. Y. politics. He died at Washington while in office. He must be distinguished from his namesake Admiral C., gov. of N. Y. 1743–53.

CLINTON, SIR HENRY: 1738–95, Dec. 23; grandson of Francis, sixth earl of Lincoln, and son of Admiral George C., British gov. of Newfoundland and N. Y. He became capt. in the guards 1758; was sent to Boston as a maj.gen. 1775, May; took part at Bunker's Hill, June 17; and in the attack on Fort Moultrie in Charleston harbor 1776, June 28, sailed thence to New York, served for some time under Howe, and was left in command 1777. He stormed Forts Clinton and Montgomery in Sep., and tried in vain to relieve Burgoyne. Made K.C.B. and lieut.gen., he succeeded Howe as commander-in-chief 1778, Apr. He evacuated Philadelphia June, and retreated to New York, fighting at

CLINTON—CLIO.

Monmouth on the way. In an expedition into N. J. 1779, his troops committed outrages for which he was blamed. He sailed for S. C., Dec., and captured Charleston with Gen. Lincoln's army 1780, May 12. Returning to New York, he tried to obtain West Point by Arnold's treason, was virtually blockaded by Washington, made a vain effort to relieve Cornwallis, was superseded by Carleton, and returned 1782 to England where he published *A Narration of the Campaign in 1781* (1783), and had a controversy with Cornwallis. He was sent to parliament, made gov. of Limerick, and 1793 gov. of Gibraltar, where he died.

CLINTON, HENRY FYNES: 1781, Jan. 14—1852, Oct. 24; b. Gamston, Nottinghamshire: Eng. classical scholar. He was educated at Southwell School, and afterward at Westminster. In 1799, he went to Oxford, and 1805 took his degree M.A. Next year he entered parliament as member for Aldborough, which he continued to represent until 1826. C.'s two great works are the *Fasti Hellenici* (1824–34), and *Fasti Romani* (1845–50). They are known to all European scholars, and contain an immense store of learning.

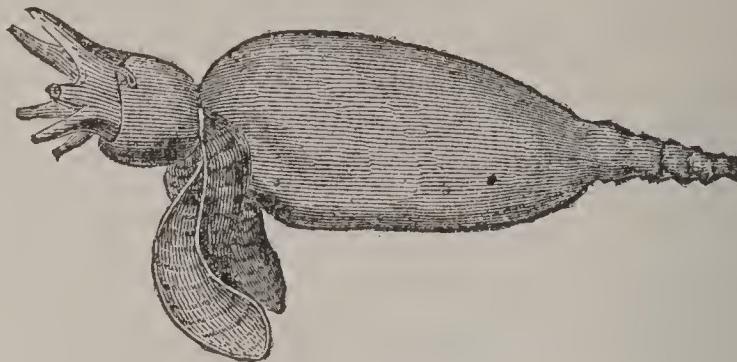
CLINTON, JAMES: 1736, Aug. 9—1812, Dec. 22; b. Ulster co., N. Y.: general; third son of Charles C. As a capt. at Frontenac, 1758, he captured a French war vessel on lake Ontario. He commanded four regts. levied 1763 to protect the frontiers of Ulster and Orange from Indian incursions. He was made col. of the 3d N. Y. 1775, June 30, and brig.gen. 1776, Aug. 9. With 600 militia he defended Fort Clinton 1777, Oct., against 3,000 British, and was the last to leave the works; though severely wounded, he escaped by sliding down a precipice. Joining Gen. Sullivan 1779 with 1,600 men, he defeated the Indians at Newtown (now Elmira), destroyed their villages, and drove them to Niagara. He held command for some time at Albany, and saw the surrender of Cornwallis at Yorktown and the evacuation of New York. After the war he was a commissioner to adjust the Penn. boundary, member of the convention which ratified the federal constitution, and of both houses of the N. Y. legislature. He died at his birthplace.

CLIO, n. *kli'ō* [L. *Clio*—from Gr. *Kleio*—from *kleio*, I celebrate]: in Grecian myth., daughter of Jupiter and Mnemosyne, the mother of Hyacinthus and Hymenæus. She was the muse of history and epic poetry, and was represented as bearing a half-opened roll of a book.

CLIO: genus of shell-less pteropodous mollusks, of which one species, *C. borealis*, is extremely abundant in the Arctic seas, and constitutes a principal part of the food of whales, so that indeed the names *whale's food* is often given to it by whale-fishers. It is scarcely an inch long; the head is furnished with six retractile tentacula; the organs of locomotion are two delicate fins, attached to the neck, and which in swimming are brought almost into contact, first above, then below. It is an active little creature, often coming for an instant to the surface of the water in calm

CLIP—CLIPPER.

weather, and then suddenly diving away into the depths. Myriads are seen together, and the water is sometimes so full of them, that a whale cannot open its mouth without



Clio Borealis.

engulfing them in great numbers. *C. australis* is almost as abundant in the southern seas as *C. borealis* in the northern.

CLIP, v. *klip* [a word imitative of the snapping noise made by shears: Dan. *klippe*, to clip or cut: Sw. *klippa*, to clip, to wink: Ger. *klippen*, to clink: Icel. *klippur*, shears]: to cut off with shears or scissors, to pare; to cut short: N. a sheep-shearing; that which is shorn off the sheep. **CLIPPING**, imp.: N. the part cut off. **CLIPPED**, pp. *klipt*; also **CLIPT**, pt. and pp. **CLIPPER**, n. one who; a fast-sailing ship. To **CLIP ONE'S WINGS**, to put a check upon one's projects or schemes.

CLIP, v. *klip* [Dut. *klippe*, a fetter: prov. Sw. *klippa*, to compress]: in *OE.*, to enfold in the arms; to embrace; to encompass; to contain: N. an embrace; a fastener or holder, as for letters. *Note.*—The two preceding entries are connected in sense and etymology, because the ideas *clasping*, *grasping*, and *cutting* are clearly interchangeable, and derivable the one from the other.

CLIPPER: name familiarly given to a ship built expressly for speed. The requirements of trades in which the merchandise carried was perishable so that a quick passage was desirable seem to have directed scientific attention to the *lines* of vessels for ascertaining the form offering least resistance to the water. For many years the fruit-clippers have been celebrated for rapid passages; and the opium-clippers and slavers have attained unenviable notoriety for speed. The modifications of the old form of vessel have been gradual, the desideratum aimed at being the combination of the greatest carrying capacity with the form best adapted for speed. Perhaps the most successful improvements have been those of the Aberdeen builders, Mr. Scott Russell, and the ship-builders in the United States. A C., as compared with an ordinary sailing-ship, is longer and narrower (though of late the tendency has been to increase the beam); very sharp at the bows, which are generally hollowed more or less below the water-line; gracefully fined

CLIPPING THE COIN—CLITHEROE.

away toward the stern, which is usually elliptical; and, altogether, presenting the contrast of the race-horse to the beast of burden. Some of the C. ships now running from



English clipper.

Liverpool to America and to Australia are among the most magnificent vessels in the world. The *Lightning*, during a voyage from Melbourne to Liverpool, ran 2,550 English miles in one week, or at the rate of $15\frac{1}{2}$ m. an hour during the whole period. The Americans have fully done their part in introducing rapid C. ships, both for ocean and for river navigation, for steamers and for sailing-ships.

CLIPPING THE COIN: see COINING.

CLIQUE, n. *klēk* [F. *clique*; Ger. *klicke*, a faction, a party]: a party of individuals associated for the furtherance of a common purpose, generally in an objectionable sense; a party; a coterie; a set or party. **CLIQ'UISH**, a. *-ish*, relating to a clique.

CLITELLUM, n. *klī-tē'lūm* [L. *clitellæ*, a pack-saddle]: the thickened part of the body of some worms, as the earthworm, developed in connection with the reproductive organs.

CLITHEROE, *klīth'ērō*: parliamentary and municipal borough in the w. of Lancashire, Eng., on the left bank of the Ribble, 28 m. n. of Manchester. It lies on a low eminence of carboniferous limestone, at the base of Pendle Hill, which is 1,803 ft. high. Pendle Forest is celebrated as the locality of the exploits of the Lancashire witches. The main street runs along the ridge of the eminence, and at its end are the ruins of a castle, founded by the Lacy's in the time of William Rufus. C. has print-works, cotton-manufactures, and limekilns. It sends lime to all parts of the kingdom. About 5 m. west of C. is Stonyhurst College, principal seat of the Jesuits in England. Pop. of

CLITUMNUS—CLIVE.

C., parliamentary borough (1891), 10,815. It returns one member to parliament.

CLITUMNUS, *kli-tūm'nus* (now **CLITUMNO**, *kle-tōm'no*): small river of Umbria in ancient Italy. It rises s. of Spoleto, flows n. and e., and under the name of the Tinia or Timia joins the Tiber, lat. 43° n. It was a favorite resort of the Romans, and noted for the clearness of its waters and the beauty of its banks. Pliny describes its pastures, groves, and herds. A temple of Jupiter C. stood at lat. $42^{\circ} 51'$ n., long. $12^{\circ} 48'$ e. A peculiar breed of cattle, supposed to become white from drinking of the stream, were greatly valued for sacrifices, and led with flower-wreaths and gilded horns in triumphs.

CLITUS, or **CLEITUS**, *kli'tus*: foster-brother of Alexander the Great, whose life he saved at the battle of the Granicus, B.C. 334, by cutting off an arm outstretched to slay. He was made commander of a div. of the royal guards and appointed, B.C. 328, satrap of Bactria. The night before he was to start for his province, the king gave a feast at Maracanda in Sogdiana in honor of the Dioscuri. Both drank freely. C. imprudently rated the glory of Philip above that of his son, and Alexander, enraged, killed him with a spear. The king's remorse was poignant, and C. was buried with great honors.

CLIVE, *kli've*, ROBERT, Lord Baron of Plassey: 1725–1774, Nov. 22; b. Styche, Shropshire, England: warrior-statesman, founder of British supremacy in India. At school he had little aptitude for learning, but was noted for his mischievous propensities and his fearless disposition. The monotony of a clerkship in the India Civil Service at Madras, where he arrived 1744, had literally nearly been the death of him; it was with great joy, therefore, that he abandoned the pen for the sword, when some three years after his arrival the troubles accumulating upon the English in India gave him an opportunity of doing so. C. had now found his true sphere. The bold, fearless character had now scope enough for its development; the intellect which, chained to the desk, had seemed of the dullest and most common-place kind, in the freedom of the field became at once quick, comprehensive, and original. When C. grasped the sword, English influence in India was almost extinct; the French and their allies had scarcely left them even a material footing. Yet in less than half a dozen years after C. had, 1751, Aug., with 200 English infantry and 300 sepoos, marched out of Fort St. David on his hazardous enterprise to attack Arcot, a city of 100,000 inhabitants, and garrisoned by 1,200 or 1,500 of Chunda Sahib's best troops, amply supplied with artillery, the decisive battle of Plassey had been fought, and English power established on the ruin of that of France and the native princes. The daring shown in the capture of Arcot, and the intrepidity and fortitude of its defence by C. and his little band, reduced to 200 men, against an army of 10,000, was the foundation of England's subsequent greatness and glory in India. C.'s name hence-

CLOACA—CLOACA MAXIMA.

forward was a tower of strength in India, where he was surnamed by the natives *Sabat Jung*, or ‘the Daring in War.’ Victory marched with him alike against native warriors, French, and Dutch. Unscrupulous as to his means, he would undoubtedly have found himself involved in many difficulties had not his questionable actions been invariably crowned, and thus—in the lax political notions of the time—justified by success. Nothing remaining for him to do in India, he returned to England 1760, and received the warm thanks of the E. India Company and an Irish peerage from the government for his services. His wealth, arising from shares in various spoils, presents and grants of territory from native princes, was enormous. After his departure from India, the company’s affairs, through the dishonesty of its servants, high and low, fell into the greatest confusion, and C., 1764, was chosen to set them right. He proved himself as competent an administrator as he was a warrior. Uncompromising and resolute, he bore down every opposition to his plans, all the more sternly that he found it in some cases assuming the form of threats. In less than 18 months, he had ‘restored perfect order and discipline in both the civil and military services, and brought back prosperity to the well-nigh ruined finances of the company.’ He returned to England 1767, and was received with the distinction to which his important services entitled him. But the energetic way in which he had righted matters in India gave offense to those who suffered from the suppression of dishonest practices, many of whom were not without influence in the mother-country. This influence they employed to stir up ill-feeling against C.; and his proceedings in India were made the subject of animadversion in parliament 1772, and in the following year matter for the inquiry of a select parliamentary committee; who, however, failed to find that C. had acquired his great wealth by abuse of power, as his enemies had asserted. The form of acquittal, however, was not quite satisfactory to C., who never recovered from the disgrace implied in the trial, and ended his life by suicide. See Malleson’s *Clive* (1882).

CLOACA, n. *klō-ā’kă* [L. *cloācă*, a drain or sewer: comp. Gael. *clodach*, dirt, ordure]: a large sewer; in zool., that part of the intestines of birds, many fishes and reptiles—also in one order of mammals, the *Monotremata*—in which the intestinal, ovarian, and urinary outlets terminate (see BIRDS). CLOACAL. a. *klō-ā’kăl*, relating to or connected with.

CLOACA MAXIMA, *klō-ā’ka măks’i-mă*: subterranean passage of vast extent, by which the whole, or a great part, of the filth of ancient Rome was conveyed to the Tiber. Drains from the lower parts of the city around the Forum, and from the other valleys, were commenced by Tarquinius Priscus; but the construction of the C. M. is attributed by Livy to Tarquinius Superbus. Niebuhr is of opinion that it was at first intended to drain the valley of the Fo-

CLOAK—CLOCK.

rum; but it appears to have been subsequently extended, and connected with the smaller cloacæ. Running from the Forum past the temple of Vesta, it terminated at the Tiber, where the mouth of it is still visible. It consisted of three large arches, one within the other. The space enclosed by the innermost vault was upwards of 13 ft. in width, and of a corresponding height. The arches were built of large blocks of stone, fixed together without cement, of the uniform size of rather more than five ft. five inches long and three ft. high. The species of stone used bears evidence to the antiquity of the construction, being the material used in the most ancient public edifices. The sewer was kept in a state of efficiency by a continual stream of superfluous water from the aqueducts. Large portions of this and of the other cloacæ remain, in some places still visible, but generally buried, by the accumulation of soil, at a considerable depth below the present level of the streets. During the Republic, the surveillance of the Roman cloacæ was one of the duties performed by the censors. The C. M. was subjected to repair by Cato and his colleague in the censorship. Agrippa, when ædile, obtained praise for his exertions in cleansing and repairing the cloacæ, and is recorded to have passed through them in a boat. Under the empire, officers called *curatores cloacarum urbis* were appointed for their supervision. So thoroughly was the city undermined by these large sewers, that Pliny calls it *urbs pensilis*, a city suspended in the air rather than resting upon the earth. Drains of the same description, but of smaller dimensions, existed in some other ancient Roman cities. The Romans had a goddess of sewers, Cloacina, whose name appears at a very early period.

CLOAK, n. *klōk* [OF. *cloque*—from mid. L. *cloca*, a bell: Flem. *klocke*, a gown: Bohem. *klok*, a woman's mantle (see CLOCK 1)]: a loose outer garment without sleeves, covering the whole body, and extending from the neck downward, often as far as the ankles—so named from its original bell-shape; that which conceals; a pretext; an excuse. **CLOAK**, OE. **CLOKE**, v. *klōk*, to cover with a cloak; to hide or conceal; to employ a false covering. **CLOAK'ING**, imp. **CLOAKED**, pp. *klōkt*. *Note*.—**CLOAK** signifies, a mantle, a cover; *palliate*—from L. *pallium*, a cloak or mantle, originally signified the same; but now their derived meanings are diverse, *cloak* meaning to conceal or cover as a fault, while *palliate* means, to excuse, to render a fault less odious by explanations and redeeming circumstances.—**SYN.** of ‘cloak, v.’: to mask; blind; veil; hide; conceal; palliate.

CLOCK, n. *klōk* [F. *cloche*; Ger. *glocke*; Dut. *klocke*, a bell: Gael. *clog*, a bell; *clag*, to ring: Ir. *clogan*, a little bell; *clogaim*, I ring]: a machine which indicates the time of day, and strikes the hours: see HOROLOGY. **CLOCKMAKER**, one who makes clocks. **CLOCK-WORK**, mechanism like a clock. **O'CLOCK**, contraction for ‘time of the clock.’

CLOCK, n. *klōk* [Icel. *klaeg*, a horse-fly]: familiar name of the common beetle; also **CLOCK'ER**, n.

CLOCK—CLOG ALMANAC.

CLOCK, n. *klök* [an imitative word: Dut. *klocken*]: the cry of the brooding hen: see CLUCK.

CLOCK BELL METAL: principally an alloy of copper and tin, with smaller quantities of bismuth, antimony, lead, and zinc. A common alloy is 80 parts of copper, 10 tin, 5½ zinc, and 4½ lead. The bismuth and antimony make the bell more brittle, but they communicate a better tone; and where the proportion of tin rises as high as 20 per cent., or one part of tin to four of the other metals, a very much more sonorous bell is obtained.

CLOD, n. *klöd* [Gael. *clod*, a turf, a sod: Dan. *klods*; Sw. *klots*, a block, a log; Dan. *klat*, a spot, a lump]: a hard lump of earth of any kind; earth, ground, or turf; a stupid fellow; a dolt. **CLOD'DY**, a. -*di*, consisting of clods. **CLOD'HOPPER**, n. a rustic; a peasant. **CLOD'DISH**, a. lumpish; boorish. **CLOD'POLL**, n. [*poll*, the head]: a stupid fellow.

CLODIUS PULCHER, *klö'di-us pü'l'kér*, **PUBLIUS** (real name **PUBLIUS CLAUDIUS PULCHER**): Roman demagogue and debauchee, noted from his connections with Cæsar and Cicero. He served in Asia under Lucullus b.c. 70, and impeached Catiline 69 for extortion in Africa. Disguised as a woman, he intruded, b.c. 62, into the mysteries of Bona Dea at Cæsar's house: for this cause Cæsar divorced his wife, who 'must be above suspicion.' Tried for sacrilege, C. escaped by bribery: Cicero refused to defend him and testified against him, but Cæsar was a witness in his favor, and helped him (as did Pompey and Crassus) to become tribune b.c. 59. He then procured Cicero's banishment for a year, and pursued that orator with steady malignity. C. and Milo, being rival candidates for praetor, encountered each other with their retinues between Rome and Lanuvium b.c. 52, Jan. 20; a fight ensued, and C. was killed. Cicero defended Milo in a famous oration. The mob, with whom C. was in high favor (he had changed his name from Claudius to please them), raised a tumult, and Pompey was made sole consul.

CLOFF: see CLOUGH.

CLOG, n. *klög* [Gael. *ploc*, any round mass: Scot. *clag*, to cover with mud: Dan. *klag*, mud]: a hindrance by reason of something adhesive and heavy; an impediment; anything that hinders motion: V. to impede motion by something adhesive and heavy; to fill with that which hinders motion; to burden; to embarrass; to render difficult; to adhere in a cluster or mass. **CLOG'GING**, imp. **CLOGGED**, pp. *klög'd*. **CLOG'GY**, a. -*gi*, that has power to clog; thick. **CLOG'GINESS**, n. the state of being clogged.—SYN. of 'clog, v.': to encumber; impede; obstruct; embarrass; fetter; retard; prevent; shackle; hinder; burden; restrict; restrain.

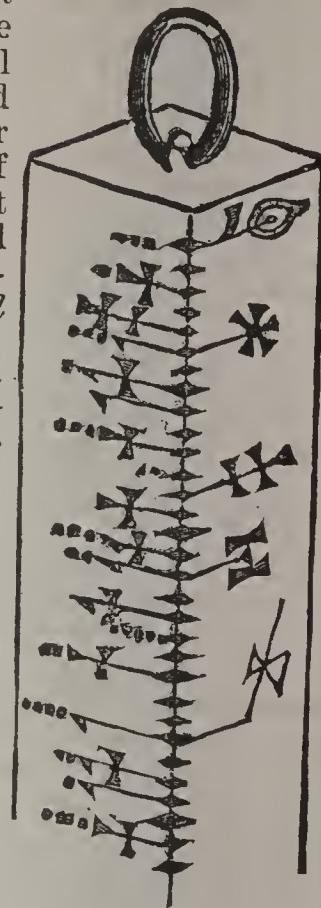
CLOG, n. *klög* [Ger. *klotz*, a log, a clog: F. *claque*, an overshoe: It. *clacche*, clogs]: a short, thick piece of wood; a wooden shoe—so named from its lumpy, shapeless form; a shoe with a wooden sole.

CLOG AL'MANAC: name given in England to a primi-

CLOGHEEN.

tive kind of calendar or almanac, called also a 'rim stock,' and 'prime staff.' In Scandinavia it was called a 'Runic staff,' from the Runic characters used in its numerical notation. It was generally of wood (whence its name of 'clog,' i.e., log or block), but was sometimes of brass, of bone, or of horn. When of wood, it was usually of box; but elm, fir, and oak also were employed. 'This almanac'—says Dr. Plot, in his *Natural History of Staffordshire*, written 1686, when it was still in use among the common people of that county—is usually a square piece of wood, containing three months on each of the four edges. The number of days in them are expressed by notches: the first day by a notch with a patulous stroke turned up from it, and every seventh by a large-sized notch. Over against many of the notches are placed on the left hand several marks or symbols, denoting the golden number or cycle of the moon. The festivals are marked by symbols of the several saints issuing from the notches. Some are perfect, containing the dominical letters as well as the prime and marks for the feasts, engraven upon them, and such are our primestaves in the museum at Oxford: others imperfect, having only the prime and the immovable feasts on them, and such are all those I met with in Staffordshire; which yet are of two kinds also, some public, of a larger size, which hang commonly here at one end of the mantle-tree of their chimneys, for the use of the whole family; and others private, of a smaller size, which they carry in their pockets.' Examples of the C. A. are in the British Museum (one cut apparently towards the end of the 17th c.); in the Ashmolean Museum, and the Bodleian Library, Oxford; in St. John's College, Cambridge; and in the Cheetham Library, Manchester. The Flemish antiquary, Gruter, delineates one at Rome, which he believes to have been used by the Goths and Vandals; but there is no reason to suppose that the C. A. was known to any European nation before its conversion to Christianity. It is described by the Swedish historian, Olaus Magnus, in the 16th c.; and by the Danish antiquary, Olaus Wormius, in the 17th c. It has been found in France and elsewhere. In Denmark it seems to have been generally flat, divided into six columns; but six-sided examples are not unfrequent. Some of the clog almanacs show a peculiar numerical notation. The first four digits are marked by dots; the fifth, by a sign like the Roman numeral V; the next four, by this sign and additional dots; and the tenth, by the sign +.

CLOGHEEN, *klōh'-chēn'*: town in the s.w. of Tipperary



Clog Almanac for month of January.

CLOGHER—CLOISTER.

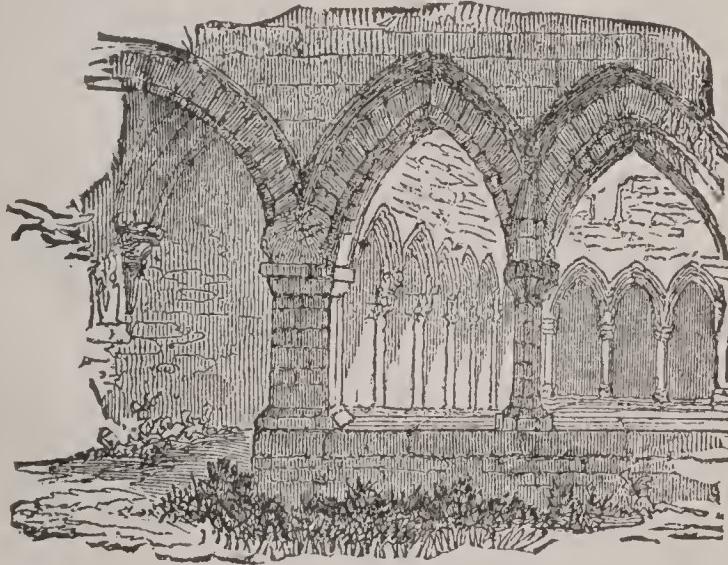
county, 14 m. w.s.w. of Clonmel; lat. $52^{\circ} 17' n.$, and long. $7^{\circ} 57' w.$ The rich limestone soil of Tar vale produces fine wheat crops, and there are extensive flour-mills here. Six miles n.w. of C. are the famous limestone caves of Mitchells-town, with beautiful limestone concretions. The caves consist of galleries and vaults, 800 by 570 ft. Pop. of C. (1881) 2,924.

CLOGHER, *klokh'cher*: decayed episcopal city of Ireland, in the s. of Tyrone, on the Launy, tributary of the Black-water; 104 m. n.n.w. of Dublin. The Prot. Episc. see is now united to that of Armagh. St. Patrick is said to have been the first bishop of C. in 444. Pop. 225.

CLOISONÉE: see ENAMEL.

CLOISTER, n. *kloy'ster* [Ger. *kloster*, a cloister: F. *cloître*—from OF. *cloistre*, a monastery—from L. *claustrum*, an inclosure]: a square inclosed by buildings having a piazza on its four sides; a monastery or nunnery, so named from the cloister being the principal part; the piazza of an inclosed court, a wall with a projecting cover; an arcade: V. to confine in a monastery; to shut up in retirement. CLOISTERING, imp. CLOISTERED, pp. *kloy'sterd*. CLOISTERAL, a. confined to a cloister; retired from the world. CLOISTERER, n. -ér, one who. CLOISTRESS, n. *kloy'strés*, a woman living in a cloister, a nun.—SYN. of 'cloister, n.': monastery, nunnery; convent, priory; abbey.

CLOIS'TER, covered passage, or ambulatory, around the walls of certain portions of monastic and collegiate buildings. The C. usually surrounded or formed a cov-



Cloister: Kilconnel Abbey.

ered passage along three sides of a quadrangular area, which was called the *C. garth*. The roof of the C., often vaulted, was supported on the side next to the quadrangle by pillars and arches, which were frequently ornamentally combined like trifolial arches, and, like them, occupied by tracery. The upper portions of these arches, above the mullions, were often glazed; and sometimes, latterly, even the whole arches, so that they became a row of windows,

CLOKE—CLONDYKE.

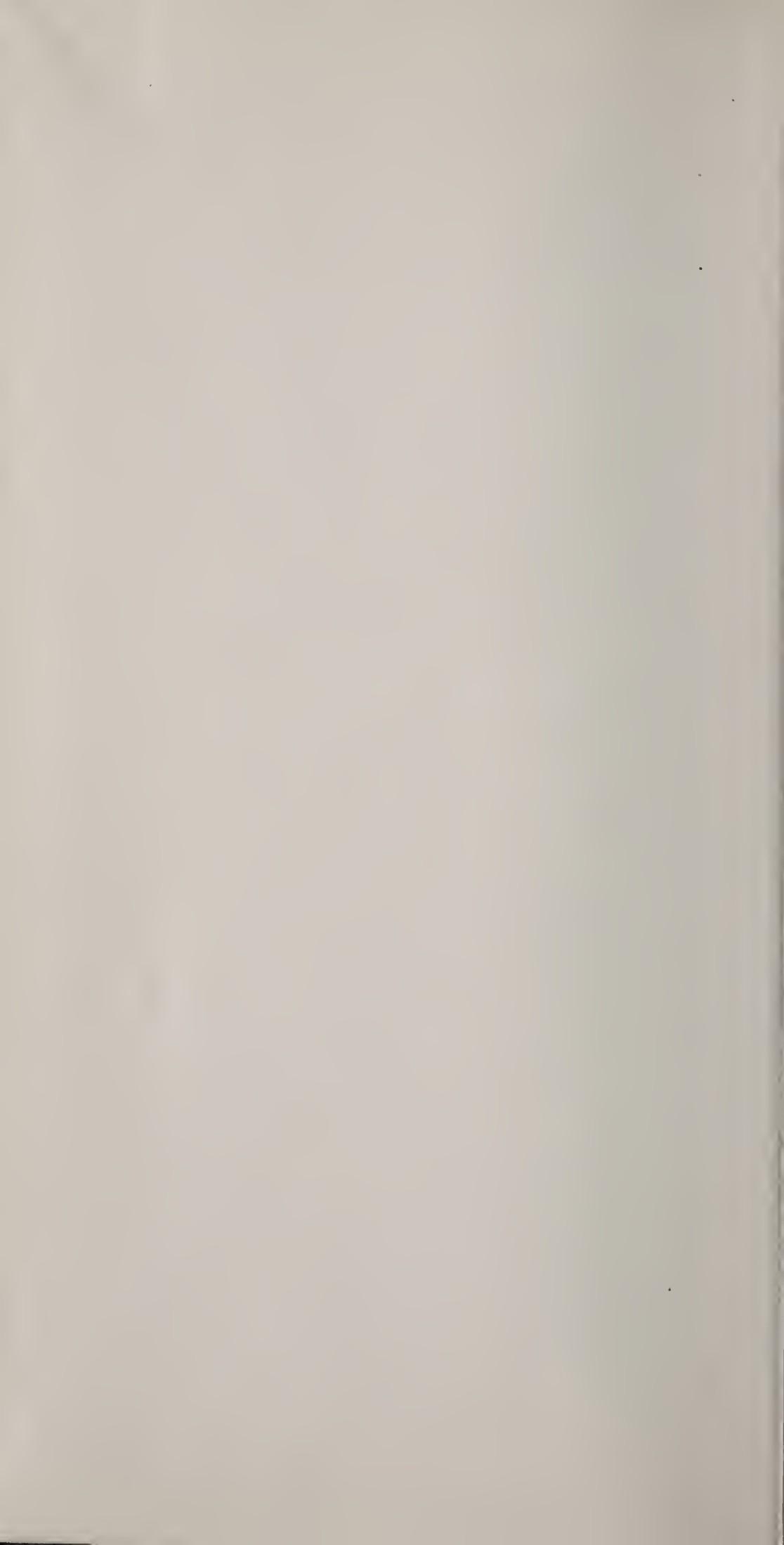
as at Gloucester. Cloisters were used for exercise and recreation by the inmates of the religious houses. Occasionally, when wholly glazed, they had cells or stalls for study on the inner side; and very frequently a stone bench may still be seen along the same side. Many of the larger monasteries had more cloisters than one; and so characteristic were they of the religious houses, that the term C. came to be used in a general sense for the whole establishment, which is still the sense of the word *kloster* in German. See MONASTERY.

CLOKE, v. *klōk*: the OE. spelling of CLOAK, which see.

CLONAKILTY, *klōh-na-kil'tē*: town in the s. of Cork county, Ireland, 26 m. s.w. of Cork. Once a flourishing town, now fallen into decay. Pop. (1890) abt. 4,000.

CLONDYKE: see KLONDIKE.

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